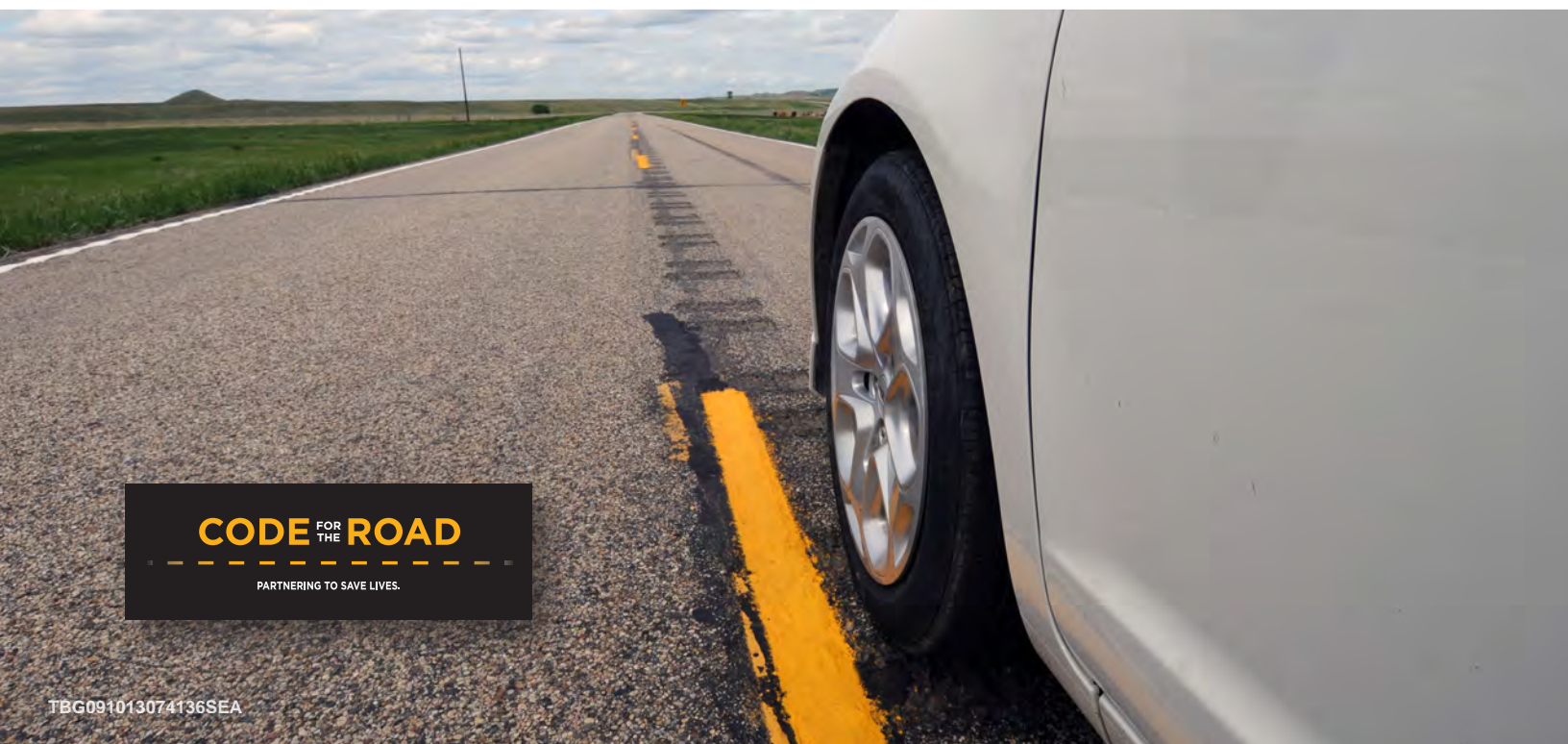


October 2013

North Dakota Local Road Safety Program



CODE FOR THE **ROAD**

PARTNERING TO SAVE LIVES.

North Dakota Local Road Safety Program

Prepared by

CH2M HILL

SRF Consulting Group, Inc.

On behalf of

North Dakota Department of Transportation

Grant Levi, P.E., Director

October 2013

23 USC 409

NDDOT Reserves All Objections

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Acronyms and Abbreviations

4Es	education, enforcement, engineering, and emergency medical services
100MVMT	100 million vehicle miles traveled
AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
CMC	county major collector
CMF	crash modification factor
CRS	Crash Reporting System (North Dakota Department of Transportation)
DUI	driving under the influence
EMS	emergency medical services
ERA	edge risk assessment
FHWA	Federal Highway Administration
GDL	graduated drivers license
GHSA	Governors Highway Safety Association
HSIP	Highway Safety Improvement Program
LEAD	Listen, Educate, Ask, Discuss
LRSP	Local Road Safety Program
MUTCD	<i>Manual on Uniform Traffic Control Devices</i>
NCHRP	National Cooperative Highway Research Program
NDDOT	North Dakota Department of Transportation
NHTSA	National Highway Traffic Safety Administration
Plan	LRSP Safety Plan
PSA	public service announcement
SHSP	Strategic Highway Safety Plan
TSO	Traffic Safety Office



Executive Summary

This Local Road Safety Program (LRSP) was prepared for the five counties (Cavalier, Nelson, Pembina, Ramsey, and Walsh) and the City of Devils Lake in the northeast region. The LRSP was prepared as part of North Dakota's statewide highway safety planning process. The contents are the result of a data-driven process, with a goal to reduce severe crashes (defined as those crashes resulting in at least one fatality or incapacitating injury) by documenting at-risk locations, identifying effective low-cost safety improvement strategies, and better positioning the northeast region to compete for available safety funds. The LRSP includes a description of the connection to safety planning efforts at the national, state (through North Dakota's *Strategic Highway Safety Plan* and the Highway Safety Improvement Program), and regional levels.

This LRSP was commissioned by the North Dakota Department of Transportation (NDDOT) to provide a tool to assist counties in submitting proactive low-cost systematic safety projects for the NDDOT to fund as part of the Highway Safety Improvement Program (HSIP). The LRSP is not intended to be a complete safety plan for the northeast region, because there may be other safety improvement strategies that are considered high-cost or low-cost that are also effective, but cannot be systematically applied across a county or local road system. While this LRSP addresses many of the safety concerns at high risk locations within the region, other equally important projects may be identified after this safety planning effort is complete.

Specifically, this LRSP includes the following:

- Description of the safety emphasis areas.
- Identification of a short list of high-priority, low-cost safety strategies.
- Documentation of at-risk locations along the county/local road systems that are considered candidates for safety investment. At-risk locations include roadway segments, horizontal curves, and intersections with multiple severe crashes or with roadway geometry and traffic characteristics similar to other locations in North Dakota where severe crashes have occurred.
- Development of approximately \$4 million of suggested safety projects across the northeast region (Table ES-1), including the filled out forms suitable for submittal to the NDDOT for their consideration for HSIP funding. These projects represent the application of high-priority safety strategies at the at-risk locations.
- Discussion of behavioral crash statistics, potential safety strategies, and current statewide resources available for implementation of behavioral safety strategies.

TABLE ES-1
Northeast Region Total Safety Project Costs

Rural Projects	Roadway Segments	Intersections	Curves	Total
Cavalier County	\$28,145	\$55,300	\$43,500	\$126,945
Nelson County	\$31,440	\$38,100	\$16,900	\$86,440
Pembina County	\$83,525	\$261,800	\$91,237	\$436,562
Ramsey County	\$179,940	\$1,005,750	\$108,830	\$1,294,520
Walsh County	\$31,170	\$305,500	\$73,100	\$409,770
Urban Projects	Roadway Segments	Intersections – Right-Angle	Intersections – Pedestrians and Bicyclists	Total
Devils Lake	\$221,135	\$604,000	\$795,000	\$1,620,135

The information in this LRSP is consistent with best practices in safety planning as presented in guidance prepared by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and the National Cooperative Highway Research Program (NCHRP). This information is provided to the northeast region in an effort to reduce the number of severe crashes on the county/local road systems. It is understood that the final decision to implement any of the suggested projects resides with the respective county or city officials.

It should also be noted that the rankings of county/local roadway facilities are based on a comparison with documented risk factors. There is no expectation or requirement that the northeast region pursue safety projects in the exact ranking order. The ranking suggests a general priority, and it is understood that actual project development decisions will be made by county or city staff based on consideration of economic, social, and political issues, as well as in coordination with other projects already in each agency's Capital Improvement Program.

It should also be noted that some of the at-risk locations and suggested safety projects involve the intersection of a county roadway and a state route. It is acknowledged that the county does not have the authority to implement projects on the state's right-of-way. The county is encouraged to coordinate with the NDDOT to pursue a partnership that identifies a path toward implementation. This LRSP (1) does **not** set requirements or mandates; (2) is **not** a standard; and (3) is neither intended to be nor does it establish a legal standard of care.

To help reduce the potential exposure to claims of negligence associated with motor vehicle crashes on the county/local road system, the following key point should be considered:

- Federal law (23 USC Section 409) established that information generated as part of the statewide safety planning process is considered privileged and unavailable to the public. The privileged status includes crash data where value/detail has been added by analysts during the safety planning process (for example, computation of crash rates, disaggregation of crashes by type or severity, and documentation of contributing factors), the lists of at-risk locations, and information supporting the development and evaluation of potential safety projects. The federal law and the privileged status of the safety information was upheld by

the U.S. Supreme Court in the case of *Pierce County (Washington) v. Guillen* (see Appendix I). North Dakota interprets Section 409 to mean that basic crash data is available to the public on request, but that it cannot be used in legal proceedings associated with claims of negligence.

Regarding the expected life of this LRSP, the shelf life of this document is limited (as with any transportation plan). This is because the distribution of crashes can change over time, just as roadway and traffic conditions change, contributing to the occurrence of crashes. This LRSP contains \$4 million of potential safety projects, which could provide the northeast with a sufficient backlog of projects for up to 5 years. As a result, the counties and the City of Devils Lake are encouraged to consider periodically updating this LRSP.

The counties and the City of Devils Lake are encouraged to apply for these projects through the NDDOT's HSIP process. The anticipated annual HSIP process is shown in Table ES-2.

TABLE ES-2
HSIP Solicitation Schedule

Month	Task Description
October/November	Solicitation for HSIP is sent out to all counties, districts, MPOs, cities, and tribes. The counties, districts, MPOs, cities, and tribes will have about 6 weeks to respond .
January through March	NDDOT reviews the requests and conducts additional studies if required.
Following Fall	HSIP approval notices are sent after program concurrence from FHWA. Funding for an approved project will be provided as funding is available.



1.0 Introduction

1.1 Background

To fulfill a commitment in the 2013 North Dakota Strategic Highway Safety Plan (SHSP), the North Dakota Department of Transportation (NDDOT) began the Local Road Safety Program (LRSP). The purpose of the LRSP is to better engage local roadway agencies in the statewide safety planning process. The NDDOT's commitment is based on two pieces of information:

- Based on 2007-to-2011 crash records, the SHSP identified that 56 percent of severe crashes (those crashes resulting in at least one fatality or serious injury) in North Dakota occurred on roads operated by local agencies.
- The NDDOT had historically focused federal safety funds on interstates, U.S. highways, and state highways, even though approximately half of severe crashes occurred on those facilities.

The NDDOT set out to increase the level of participation of local agencies in safety planning and the amount of safety funds directed toward projects on local systems. To do this, the NDDOT first partnered with local agencies (including all 53 counties and 12 major cities in the state) to prepare safety plans for every region of North Dakota.

Representatives from the NDDOT; Cavalier, Nelson, Pembina, Ramsey, and Walsh counties; and the City of Devils Lake prepared this LRSP Safety Plan (Plan) as Phase 1 of a comprehensive effort to reduce the number of fatal and incapacitating injury crashes (referred collectively as severe crashes) that occur on North Dakota's local road system in the northeast region. The area covered by the Plan includes portions of NDDOT District 3 – Devils Lake and District 6 – Grand Forks (Figure 1-1). Additionally, Burleigh and Ward counties and the cities of Bismarck and Minot participated in Phase 1 of the study; however, their information is presented in separate reports.

The purpose of this LRSP is to identify and implement specific safety strategies at specific locations and to link these projects directly with the contributing factors associated with the majority of severe crashes on the local roads. These safety projects are intended to be comprehensive by addressing both infrastructure- and driver-behavior-related crashes by including proactive projects developed through a system-wide risk assessment process. These projects are intended to compliment reactive projects developed through a site analysis approach focused on high-crash locations.

The Strategic Highway Safety Plan (SHSP) development process was key in helping us identify the importance of local roads to achieve our long-term safety goals. This data-driven process helped us to transition to a systemic identification of crash types on all roads in addition to our traditional crash location (or hot spot) approach on the state system. As a result, the NDDOT has partnered with local stakeholder to prepare road safety plans that will identify potential safety projects consistent with the SHSP.

— Grant Levi, P.E., Director
North Dakota Department of Transportation

The traffic safety priorities identified in this Plan are the result of a data-driven analysis of nearly 88,450 crashes (including 2,231 severe crashes) on all roads in North Dakota. Of these crashes, 4,900 total crashes and 125 severe crashes occurred in the northeast region of the state over the 5-year period from 2008 to 2012.

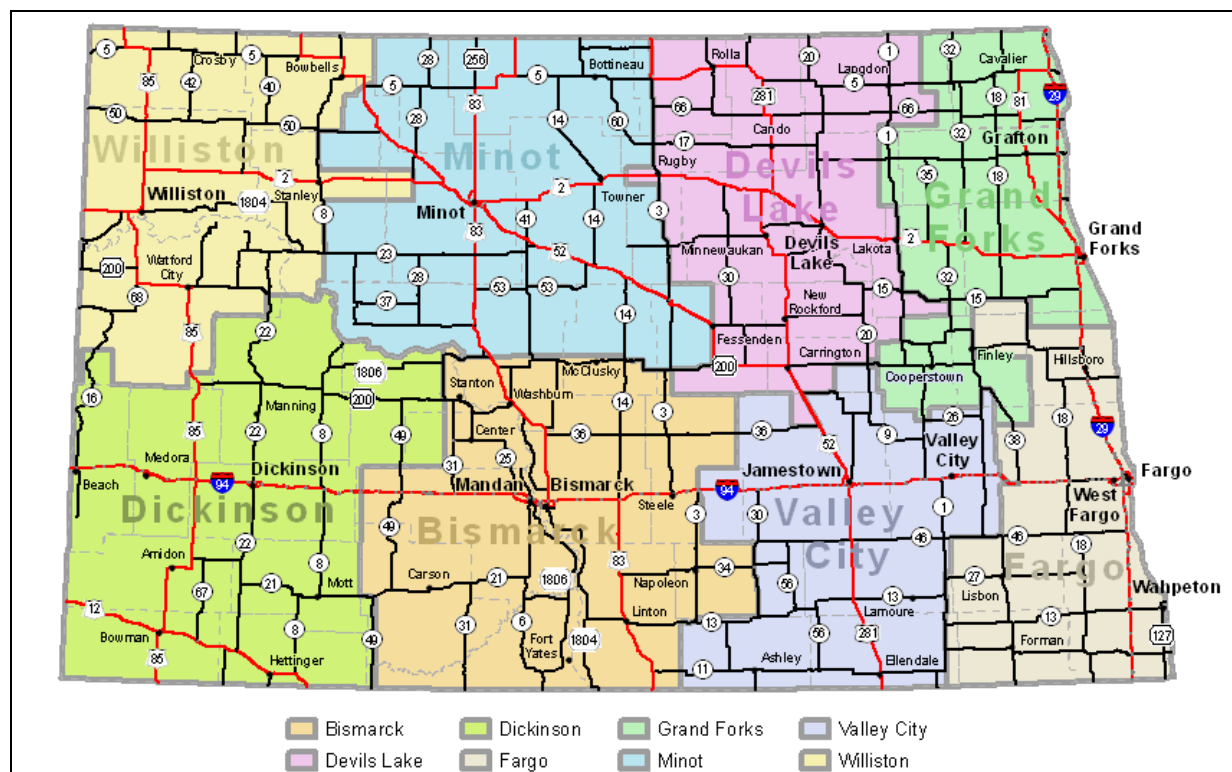


FIGURE 1-1
North Dakota Department of Transportation's Eight Districts

1.2 Traffic Safety – A National Perspective

According to the National Highway Traffic Safety Administration (NHTSA), 32,310 people were killed in traffic crashes in 2011 – an average of 89 people killed every day – and an additional 2.2 million people were injured. The number of fatalities nationally decreased significantly and steadily in the 1970s and 1980s. This trend was interrupted beginning in the early 1990s and continuing through the early 2000s as traffic fatalities began to increase. However, since 2005, traffic fatalities have decreased dramatically to the lowest number of fatalities in recent history – 32,310 fatalities in 2011.

Like the national trend, the North Dakota traffic fatality rate also decreased in the 1970s and 1980s. Likewise, North Dakota's traffic fatalities slowly increased through the 1990s and began to decrease again in 2005. However, unlike the national trend, North Dakota's traffic fatality rate has increased since 2008. The 2013 North Dakota Strategic Highway Safety Plan recognizes the following issues likely account for much of the increase:

- Shifts in the age of the driving population.
- Steady increase in the number of vehicle miles traveled in North Dakota, which is counter to the flat or decreasing national trend in travel.

- Other states have a longer history using a systemic investment approach to focus on locations with risk factors for severe crashes.
- The growing challenges of providing emergency medical response and quick access to advanced health care in rural areas.

1.2.1 AASHTO's *Strategic Highway Safety Plan* and Safety Emphasis Areas

In the late 1990s, the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) supported a comprehensive and data-driven approach to reduce the number of traffic-related fatalities. Both AASHTO and FHWA concluded that up to that point, states' efforts had not been effective in lowering the number of severe crashes because: (1) efforts were not focused on severe crashes nor the primary factors resulting in severe crashes; and (2) safety project selection was not part of a data-driven process that implemented effective strategies at locations most at risk for a severe crash.

AASHTO and FHWA recommended a safety program development process that included 22 categories (or safety emphasis areas) in the areas of drivers, special users, vehicles, highways, emergency services, and management. The objective of this first step is to help agencies consider the 4Es of safety – education, enforcement, engineering, and emergency medical services (EMS) – when identifying safety priorities for their roads. In addition, selecting safety emphasis areas focuses agencies on safety strategies linked to the issue.

In 2007, AASHTO set a goal to reduce the number of traffic fatalities nationally by 1,000 each year for the next 20 years, which is an integral first step in a national *Toward Zero Deaths* safety vision. FHWA has determined that this goal will be reached only by partnering with individual states. This partnering will lead to more successful project implementation and will result in programs that target the factors contributing to the greatest number of fatal and serious injury crashes.

1.3 North Dakota's Statewide Safety Planning Efforts

As shown in Figure 1-2, through 2004, North Dakota had a fatality rate (1.34 fatalities per 100 million vehicle miles traveled [100MVMT] in 2004) that was less than the national average (1.44 fatalities per 100MVMT). However, in recent years, the North Dakota fatality rate (1.61 fatalities per 100MVMT in 2011) has risen to above the national average (1.10 fatalities per 100MVMT) and the overall number of traffic fatalities has crept upward (see Figure 1-2). In 2011, there were 148 fatalities on North Dakota roads: the most traffic fatalities reported in the state since 1982.

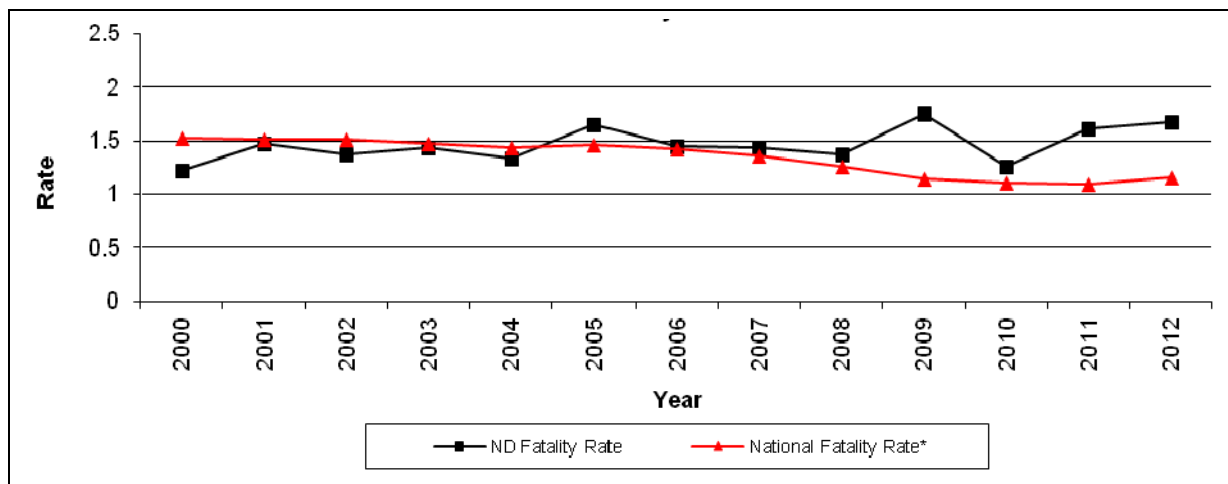


FIGURE 1-2
Fatality Rate – National and North Dakota (2000 to 2012)

In 2013, the NDDOT updated the state's SHSP. Based on severe crashes (Table 1-1), the 2013 SHSP identified the following safety emphasis areas, as well as priority safety strategies in each area:

- Young drivers (under age 21)
- Excessive speed or aggressive driving
- Alcohol-related
- Unbelted vehicle occupants
- Lane departure
- Intersections

North Dakota also adopted a long-term vision of zero fatalities on its roadways. Achieving this vision will require many years and dramatic shifts in the safety culture for North Dakota residents. An aggressive intermediate goal was set to reduce the 3-year average of traffic fatalities to 100 or fewer by 2020.

TABLE 1-1
North Dakota Fatal and Serious Injury Crashes by AASHTO Safety Emphasis Area

Safety Emphasis Area		Statewide Crashes (All Roads)	
		Percent	Number
Drivers	Involving Driver under Age 21	22%	501
	Involving drivers over the age of 64	13%	280
	Excessive Speed or Aggressive Driving	26%	576
	Alcohol-Related	30%	667
	Distracted, asleep, or fatigued drivers	9%	206
	Unbelted Vehicle Occupants	48%	1,067

TABLE 1-1

North Dakota Fatal and Serious Injury Crashes by AASHTO Safety Emphasis Area

Safety Emphasis Area		Statewide Crashes (All Roads)	
		Percent	Number
Special Users	Pedestrians crashes	5%	117
	Bicycle crashes	2%	46
Vehicles	Motorcycles crashes	12%	265
	Heavy vehicle crashes	15%	342
Highways	Train-vehicle collisions	1%	13
	Lane-Departure Including both lane-departure (898 severe crashes) and head-on/ sideswipe-opposing crashes (150 severe crashes)	47%	1,048
	Intersections	23%	513
	Work zone crashes	2%	36
Total Severe (Fatal and Incapacitating Injury) Crashes		2,231	

Notes:

Information is from the 2008 to 2012 North Dakota crash data records, which is an update to the information in the 2013 North Dakota SHSP that used 2007 to 2011 crash records.

Numbers in this table do not add up to the statewide crash numbers because one crash may be categorized into multiple emphasis areas. For example, one crash may involve a young driver at an intersection and, therefore, be included in both of these emphasis areas.

1.4 Local Road Safety Program Overview

North Dakota's local road system encompasses more than 97,500 miles of roadway out of approximately 106,000 miles statewide. Although, historically, more than 50 percent of severe crashes in North Dakota occurred on local roads, the density of these crashes was very low (approximately 0.002 severe crash per mile per year). As a result, local agencies were unable to identify high-crash locations to nominate for funding through the Highway Safety Improvement Program (HSIP). Therefore, using stand-in data for the severe crashes, safety projects were identified using a systemic process to evaluate at-risk locations. The use of the systemic process was necessary due to the low crash density. Based on revised FHWA policy, the NDDOT expanded the HSIP to include projects identified through the systemic analysis of local roads.

The focus areas of the systemic risk assessment are rural, paved county and tribal highways,¹ and urban arterials and collectors in North Dakota's larger cities (cities with a population greater than 5,000). Paved, rural county highways were selected based on an analysis of statewide crash data that indicated that approximately 61 percent of severe local road crashes occurred on rural county roads. Of these crashes, approximately half occurred on paved roads, which accounted for less than 10 percent of county roads (approximately 6,200 miles). Further analysis indicated that on these rural highways, the most at-risk elements included roadway

¹ Does not include all paved roads outside municipal limits, but focuses on routes that serve regional travel. For example, a loop road that is paved and yet only provides access to a residential neighborhood was considered to be a local road given the type of traffic served by the facility.

segments (60 percent of severe crashes), horizontal curves (32 percent of severe crashes), and intersections (32 percent of severe crashes).

Major cities were selected as a focus because approximately 90 percent of the severe local-road crashes occurred within the city boundaries of the 12 cities in this category. Furthermore, 40 percent of the severe crashes occurred on urban arterials and collectors. In addition, because these 12 cities are responsible for operation and maintenance of U.S. highway and state highway routes within the municipal limits (not including fully access-managed facilities, such as freeways), the U.S. and state highways were included in the review.

Figure 1-3 shows the approach used to develop this Plan for the northeast counties. Beginning with the crash analysis and concluding with this LRSP Plan report, the process is a culmination of the NDDOT and concerned local agencies working together for nearly half a year.



FIGURE 1-3
Local Road Safety Program Safety Plan Approach

2.0 Northeast Region Safety Emphasis Areas and Crash Overview

The first step in the process to prepare Safety Plans for the five counties and the City of Devils Lake in the northeast region was to conduct a crash analysis overview statewide for North Dakota and then for the northeast region as a whole.

2.1 Northeast Region Crash Overview

2.1.1 North Dakota Crash Mapping

Crash data were taken from NDDOT's Crash Reporting System (CRS) and placed into ArcGIS for data exportation based on specific locations relative to local roads. The most recent 5 years of crash data (from 2008 to 2012) were analyzed and used to determine risk factors specific to the northeast region local roads. Consistent with NDDOT's SHSP, the analysis focused on severe (fatal and incapacitating injury) crashes.

2.1.2 Facilities Analyzed

The crash analysis was broken into three main facility types: roadway segments, curves, and intersections.

- Paved rural local roadway segments were analyzed and local county major collector (CMC) gravel roads were analyzed for multiple crash locations. Other local gravel roads were removed from the analysis because of the relatively low percentage of severe crashes and due to the lack of infrastructure-based strategies that can be applied to this road type.
- Local rural road intersections with state highways or other local roads were included in the analysis. Local non-CMC gravel roads intersecting with other local roads were removed from the analysis due to the very low number of crashes at these intersections.
- Horizontal curves on paved rural local roads were included in analysis.
- Urban segments and intersections were analyzed in the City of Devils Lake. Urban roadway types analyzed within the city limits included:
 - State routes
 - Urban principal arterials
 - Urban minor arterials
 - Urban collector roads
- All other local road segments and intersections, including gravel roads, were reviewed for locations with multiple severe crashes or "hot spots."

2.1.3 Crash Data Sets

Crash data for the 5 years from 2008 to 2012 were used for the northeast region crash analysis. In safety analysis, it is recommended that more than 1 year of data be studied to reduce the possibility of examining an unusual year. It is also important to include as many years as necessary to produce a data set that will provide statistically reliable results, but not too long so that changed conditions are a concern (for example, reconstructed roads, addition of STOP signs, and changed speed limits). For the northeast region, no single county had enough crashes to be statistically reliable; therefore, decisions were based on the crashes for the five counties combined (Figure 2-1), statewide data (Figure 2-2), or national research.

The northeast data set includes 2,508 crashes on local roads; of these, 74 were fatal or serious injury crashes. Disaggregating the severe crashes by road type (paved, gravel, or local), area (urban versus rural), and crash type category (intersection versus segment crashes) resulted in the distribution shown in Table 2-1, Figure 2-1, and Figure 2-2.

TABLE 2-1
Crash Distribution (2008 to 2012)

Location	Northeast (Percent/Number)	Statewide (Percent/Number)
Rural Roads	65% (48 crashes)	61% (740 crashes)
Paved Rural Roads	29% (14 crashes)	52% (387 crashes)
Local Gravel CMC Roads	17% (8 crashes)	9% (68 crashes)
Paved Rural Road Segments	64% (9 crashes)	60% (226 crashes)
Single Vehicle, Lane-Departure Crashes on Paved Rural Road Segments	100% (9 crashes)	76% (171 crashes)
Paved Rural Road Intersections	21% (3 crashes)	32% (120 crashes)
Paved Rural Road Thru-STOP Intersections	67% (2 crashes)	42% (50 crashes)

This review shows that, on the local system, severe lane-departure crashes on paved roads and at angle crashes at Thru-STOP intersections are overrepresented. Based on statewide traffic safety data, severe lane-departure crashes in curves are also overrepresented.

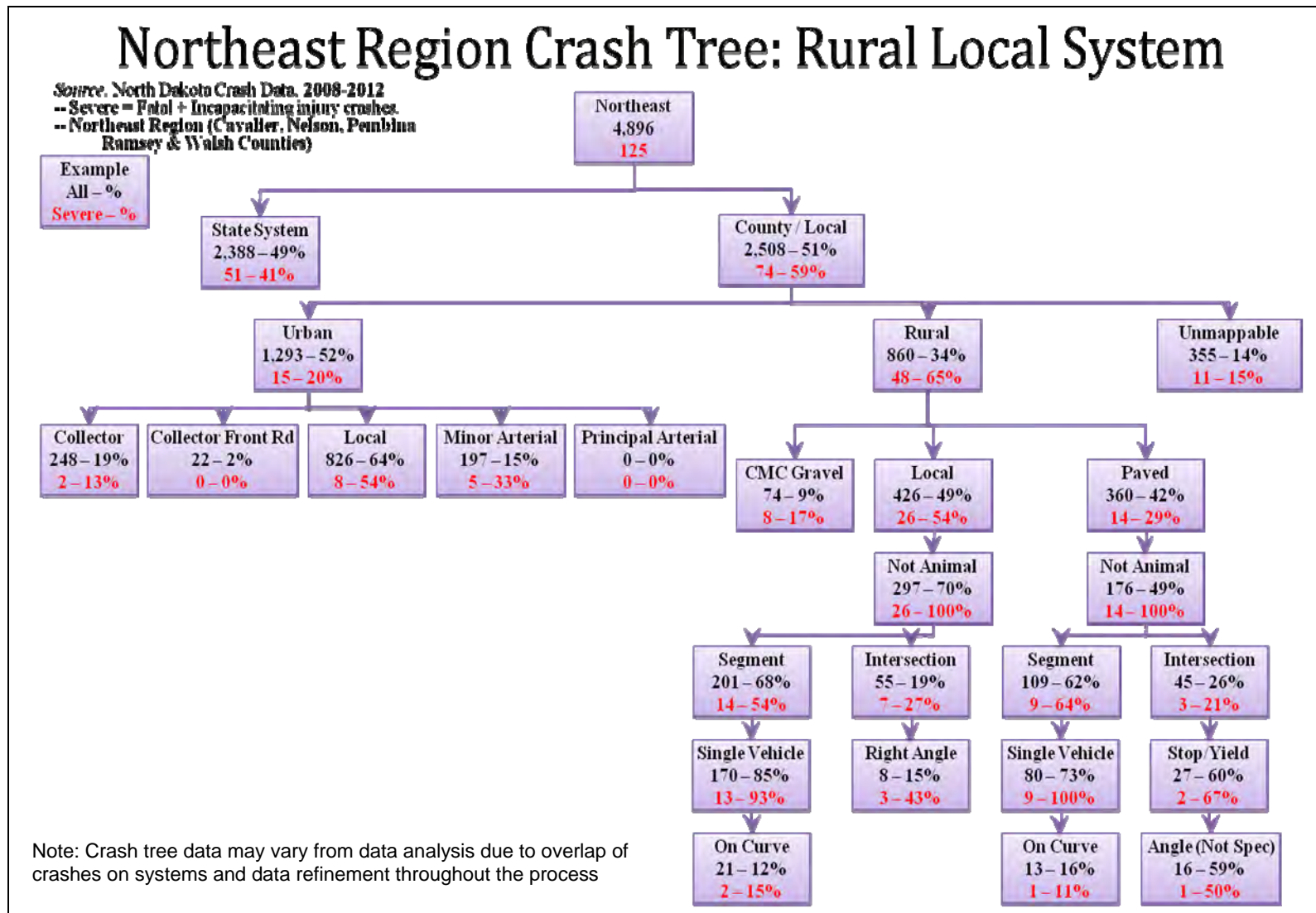


FIGURE 2-1
Northeast Region Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

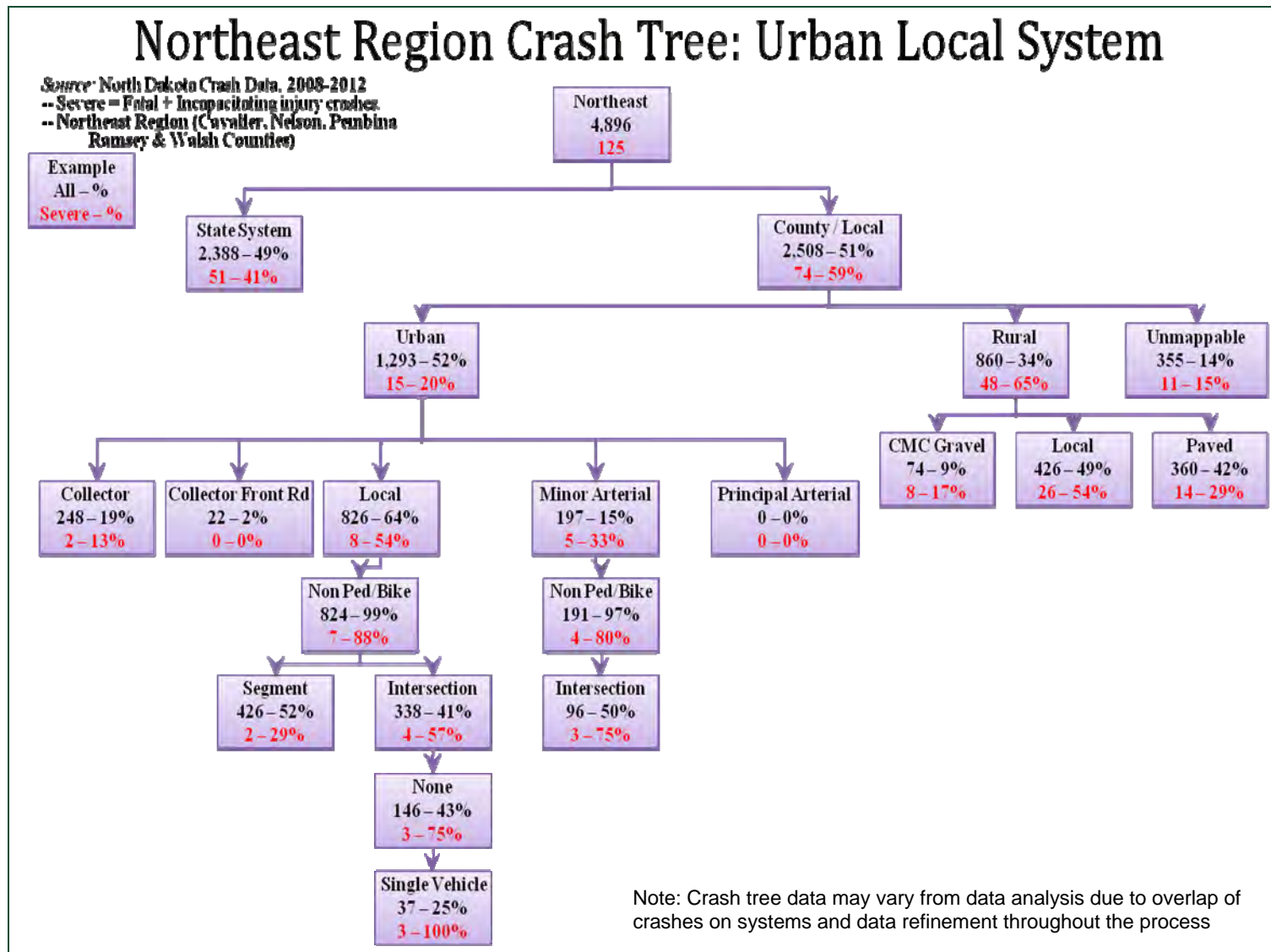


FIGURE 2-1 (Continued)
Northeast Region Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

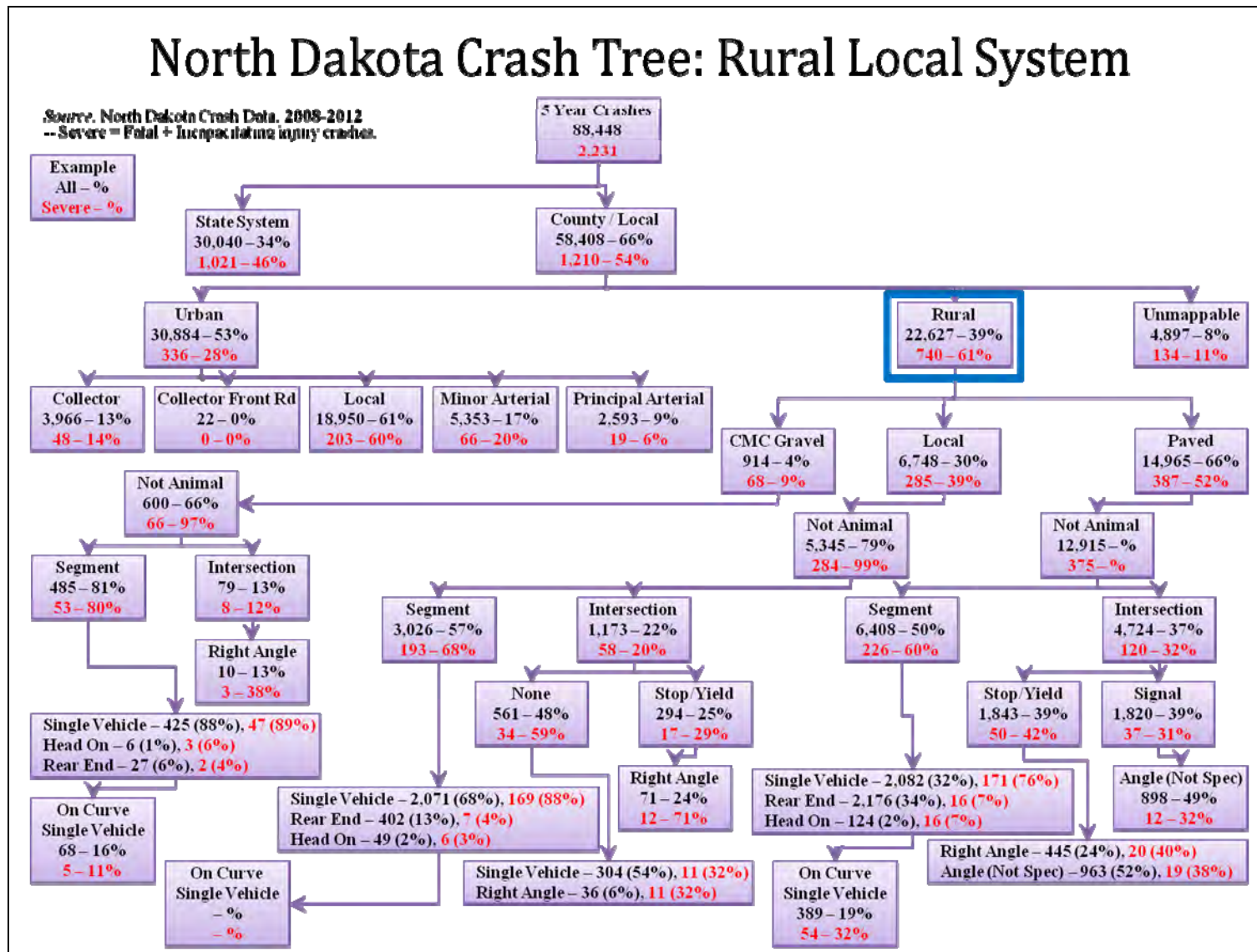


FIGURE 2-2
North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

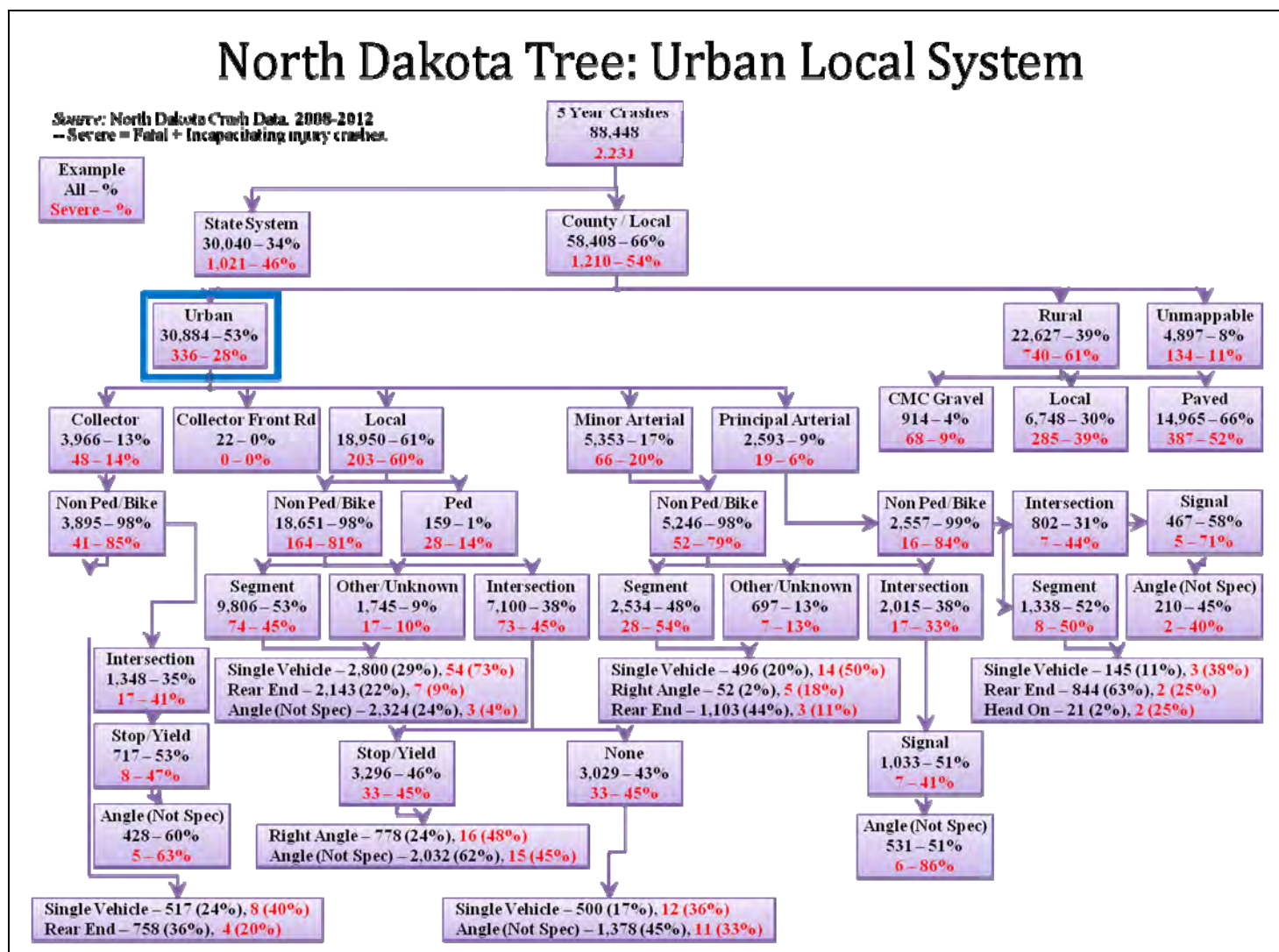


FIGURE 2-2 (Continued)
North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

2.2 Northeast Region Safety Emphasis Areas

The total number of severe crashes(those crashes resulting in a fatality or serious injury) in each county over 5 years from 2008 to 2012 was so few that the crash data was analyzed at regional, statewide, and national levels for various risk factors.

Section 1.2 described the development of AASHTO's emphasis areas, and how this process was applied to the State of North Dakota to identify statewide safety emphasis areas (Table 1-1). An identical process was followed for North Dakota's northeast counties, resulting in the distribution of severe crashes among AASHTO's 22 emphasis areas (Table 2-2). The safety emphasis areas for the northeast region are consistent with the state's emphasis areas. This process revealed where crashes were overrepresented based on a comparison to statewide averages or where a large enough number of crashes represented an opportunity to substantially reduce crashes. As a result, the following safety emphasis areas were identified as priorities for safety investments:

- Driver Behavior – Young drivers, aggressive drivers, alcohol-related, and unbelted vehicle occupants
- Highways – Lane-departure and intersection crashes

TABLE 2-2
Northeast Region Severe Crashes by Safety Emphasis Areas (2008 to 2012)

Safety Emphasis Areas	Statewide (% of Total)	2008 to 2012 Severe Crashes					
		Northeast Region*		State Roads		Local System	
		%	#	%	#	%	#
Total Severe Crashes	2,231	125		51		74	
Involving Drivers Under Age 21	22%	22%	28	24%	12	22%	16
Involving Drivers Over Age 64	13%	13%	16	18%	9	9%	7
Excessive Speed or Aggressive Driving	26%	30%	37	18%	9	38%	28
Alcohol-Related	30%	37%	46	22%	11	47%	35
Distracted, Asleep, or Fatigued Drivers	9%	15%	19	18%	9	14%	10
Unbelted Vehicle Occupants	48%	50%	63	43%	22	55%	41
Pedestrian Crashes	5%	3%	4	2%	1	4%	3
Bicycle Crashes	2%	2%	3	2%	1	3%	2
Motorcycle Crashes	12%	14%	18	12%	6	16%	12
Heavy Vehicle Crashes	15%	14%	18	25%	13	7%	5
Train-Vehicle Collisions	1%	1%	1	0%	0	1%	1
Lane-Departure (Run-Off-the-Road and Head-On) Crashes	47%	52%	65	49%	25	54%	40
<i>Head-On</i>	<i>7%</i>	<i>6%</i>	<i>8</i>	<i>12%</i>	<i>6</i>	<i>3%</i>	<i>2</i>
<i>Run-off-the-Road Crashes</i>	<i>40%</i>	<i>46%</i>	<i>57</i>	<i>37%</i>	<i>19</i>	<i>51%</i>	<i>38</i>
Intersection Crashes	23%	27%	34	16%	8	35%	26
Work Zone Crashes	2%	2%	2	2%	1	1%	1

TABLE 2-2
Northeast Region Severe Crashes by Safety Emphasis Areas (2008 to 2012)

Safety Emphasis Areas	Statewide (% of Total)	2008 to 2012 Severe Crashes					
		Northeast Region*		State Roads		Local System	
		%	#	%	#	%	#
Deer Collisions	1%	0%	0	0%	0	0%	0
Adverse (Winter) Weather Related	17%	13%	16	18%	9	9%	7
Note: * Cavalier, Nelson, Pembina, Ramsey, and Walsh Counties Severe crashes are those crashes that result in at least one fatality or incapacitating injury.							

Strategies to reduce crashes depend on whether a safety emphasis area is infrastructure-based or driver-behavior-based. Infrastructure-based emphasis areas refer to characteristics of the location (for example, a roadway segment, curve, or intersection) where crashes occurred. Driver-behavior-based emphasis areas refer to motorist characteristics or actions that contribute to crashes. Because driver behavior is tied to laws made at the national and state levels, roadway agencies generally have less ability to address driver-behavior-based emphasis areas. The most effective approach for road authorities to addressing driver-behavior-based emphasis areas is to focus on public education and law enforcement through cooperation and collaboration with other county departments, agencies, and schools. Generally, more opportunities exist for county and city road authorities to address infrastructure-based emphasis areas, because many of the associated strategies can be implemented as separate roadway improvement projects, or along with other planned improvements. Specific infrastructure- and driver-behavior-based strategies presented to the participants of safety workshops held for the northeast counties are provided in Section 3.2.

2.3 Northeast Crash Risk Factors

The objective of the analytical process is to identify candidates for safety investment based on two criteria – high-crash locations and at-risk locations. A more detailed crash analysis was performed for each priority crash type to identify (1) locations where these priority crash types occur at a rate of one or more severe crashes per year, and (2) basic roadway and traffic characteristics of locations with severe crashes. These characteristics are not considered to be the cause of crashes, but instead are used to determine the risk that a future severe crash would occur at a particular location. Information from historic crashes was used to evaluate the remainder of the northeast region's local road system and prioritize locations for safety investment based on similar characteristics.

Three urban areas were studied as a part of Phase I in the LRSP in addition to the seven northeast region counties: Bismarck, Minot, and Devils Lake. Devils Lake is the subject of the urban portion of this Plan, but for analysis purposes, the data were combined for all of Phase I urban areas.

2.3.1 Rural Segments – Crashes on Paved Roads

Of the more than 97,500 miles of local road system in North Dakota, only 7 percent of the roads are paved. However, 52 percent of crashes occurred on paved roads. Therefore, the focus of the LRSP is on rural paved roadway segments.

There are 655 miles of rural paved roads in the northeast region. From 2008 to 2012, 13 severe crashes were reported on these roads. The predominant crash type on these roads was lane-departure (involving a single vehicle; Figure 2-3). The following five risk factors were identified for rural lane departure crashes on paved roads in the northeast region:

1. **Average Daily Traffic (ADT)** – Of the northeast rural paved roads, 64 percent have an ADT between 150 and 500 vehicles per day. However, 92 percent of the severe crashes and 91 percent of the severe lane-departure crashes occurred within this ADT range (Figure 2-4). Therefore, any segment with an ADT between 150 and 500 vehicles per day received a star.¹
2. **Access Density** – Nationally, research has shown that an access density of eight or more access points per mile (including field entrances, commercial entrances, roadway access, etc.) increased the likelihood of a severe crash occurring. While the northeast data set was too small to determine a range for the access density risk, the national data were used. Any segment with an access density greater than eight access points per mile received a star.
3. **Lane-Departure Density** – The average lane-departure density for the northeast region was 0.032 crash per mile per year. Due to limited number of crashes in each county, any roadway segment where the lane-departure density was greater than the average for the northeast region received a star.
4. **Critical-Radius Curve Density** – Nationally, lane-departure crashes frequently occur within curves. Curves with radii between 500 and 1,200 feet [that is, critical-radius curves] have a higher severe-crash rate than other curve radii, and roadway segments with more curves in this range are considered to have greater risk. The risk factor is determined by the number of critical-radius curves divided by the length of the segment. The northeast region's average critical-radius curve density for these types of curves along roadway segments was 0.084 curve per mile. Any segment with a critical-radius curve density greater than 0.084 received a star.
5. **Edge Risk Assessment (ERA)** – A rating system was developed to categorize the risk level of vehicles leaving the travel lane. Roads with a usable shoulder and reasonable clear zone received a rating of 1. Roads with little or no usable shoulder but with a reasonable clear zone received a rating of 2, as did roads with a usable shoulder but with fixed objects in the clear zone. Roads with no usable shoulder and fixed objects in the clear zone received a rating of 3. Examples of these edge risks are shown in Figure 2-5. Roads were evaluated using photos taken in the summer of 2013 to determine the rating. Roads with a rating of 2 or 3 received a star.

¹ When a risk factor is present, the segment, curve or intersection is given a star. The more risk factors present (that is, more stars) indicates greater potential for a severe crash to occur.

Detailed segment analysis and results for the five northeast region counties is provided in Chapter 4. A prioritization process for each roadway segment was put into place using the five risk factors by giving stars to each risk factor present. The highest-priority roadway segments received the most stars. In cases where roadway segments received the same number of stars, the ERA and ADT were used to break the tie.

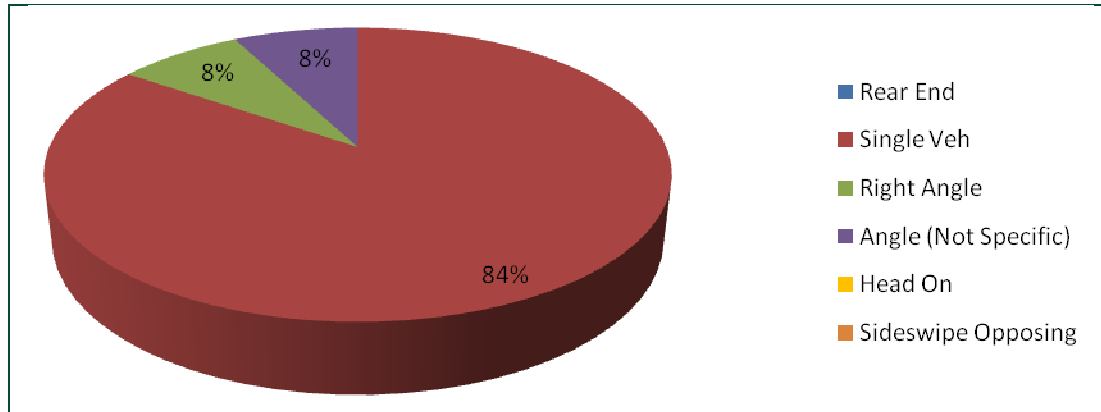


FIGURE 2-3
Northeast Region Severe Crash Types on Rural Paved Roads (2008 to 2012)
NOTE: The percentage of rear-end, head-on, and sideswipe-opposing crashes was zero.

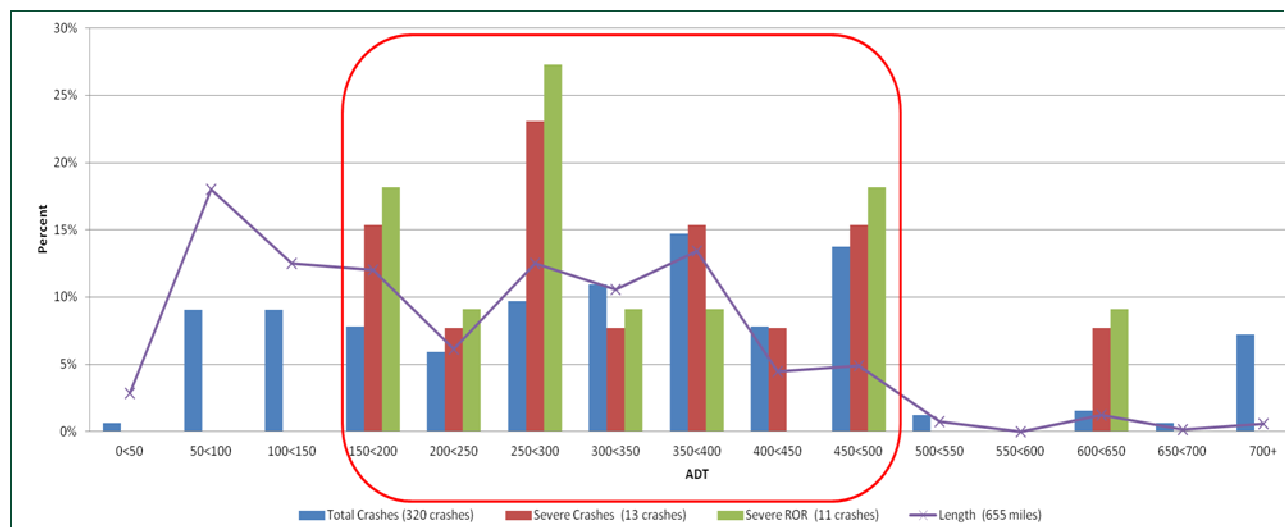


FIGURE 2-4
Northeast Region Rural Roadway Segment Average Daily Traffic (ADT) Crash Data (2008 to 2012)



FIGURE 2-5
Sample Edge Risk Assessment Ratings and Descriptions

2.3.2 Rural Curves – Crashes on Paved Roads in Curves

Detailed crash analysis included horizontal curves on rural paved local roads. Research indicates horizontal curves with certain characteristics contribute to the overall frequency of lane-departure crashes. The 654 miles of rural paved roads in the northeast region contain 112 curves totaling almost 16 miles in length (2 percent of the road system mileage).

With only two severe crashes reported from 2008 to 2012, too few crashes occurred on these curves to serve as a reliable indicator of the relative degree of risk. However, statewide data show the importance of safety improvements on curves to reduce severe crashes since 32 percent of severe lane-departure crashes occur in curves. As a result, the LRSP team used characteristics of curves in the northeast region where crashes had occurred, as well as available information from similar analysis across the nation and statewide data. Results from *Cost-Benefit Analysis of In-Vehicle Technologies and Infrastructure Changes to Avoid Crashes Along Curves and Shoulders* (compiled by the University of Minnesota and CH2M HILL in June 2009) were also used in curve analysis and prioritization.

Based on a review of these sources, the following five risk factors were identified for crashes within curves in the northeast region:

1. **Curve Radius** – In the northeast region, curves with mid-range radii had higher crash densities (Figure 2-6), similar to the national data. An upper limit of 1,200 feet was used for at-risk curves, because 1,200 feet is a 60-mile-per-hour design speed based on AASHTO's *A Policy on Geometric Design of Highways and Streets* (commonly referred to as the "Green Book," 6th edition, 2011). A lower limit of 500 feet was used to represent the severe lane-departure crashes that were reported in the northeast region from 2008 to 2012. Any curve with a radius between 500 and 1,200 feet received a star.

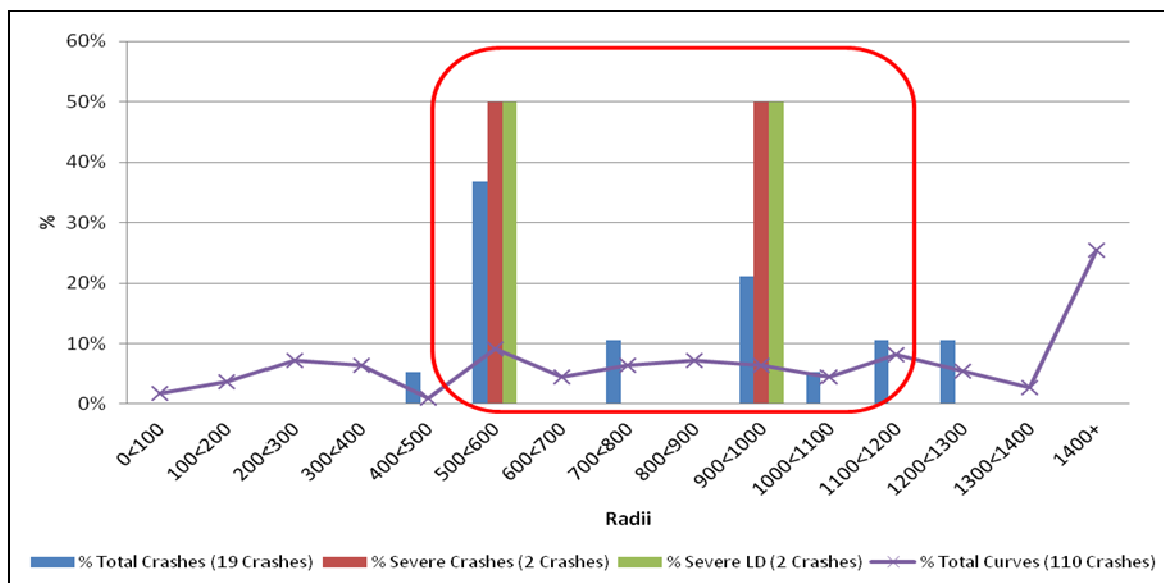


FIGURE 2-6
Northeast Region Curve Crashes by Radii – 500 to 1,200 feet (2008 to 2012)

2. **Average Daily Traffic (ADT)** – Traffic volumes between 350 and 650 vehicles per day present a risk factor in the northeast region and represent a higher risk for crashes (Figure 2-7). Sixty-eight percent of crashes occurred in curves with this ADT, while only 28 percent of curves are represented in this range. Therefore, curves with an ADT between 350 and 650 vehicles per day received a star.

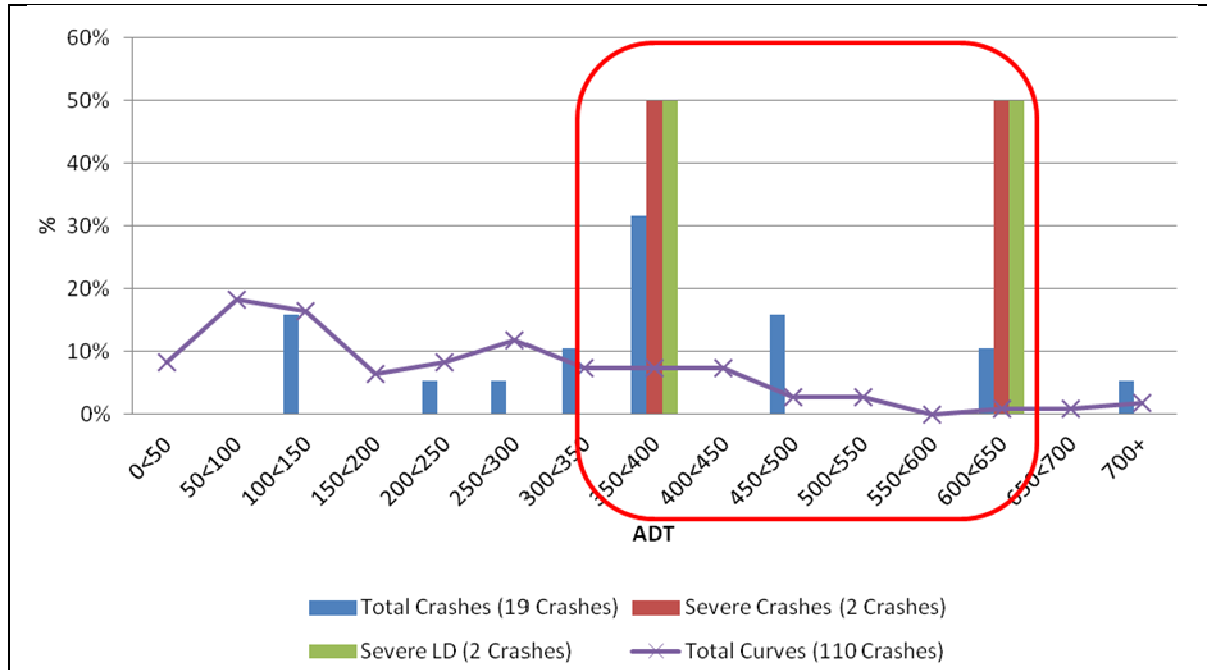


FIGURE 2-7
Northeast Region Curve Crashes by Average Daily Traffic (ADT) – 350 to 650 Vehicles per Day (2008 to 2012)

3. **Intersection in the Curve** – In the northeast region, the presence of an intersection within a curve increased the risk for a severe crash (Figure 2-8). Curves with at least one intersection within the curve received a star.
4. **Visual Trap** – A visual trap exists when the crest of a vertical curve is located before a horizontal curve or where a minor road, tree line, or line of utility poles continues on a tangent to the curve, thereby creating the illusion that the road continues straight ahead (Figure 2-9). The presence of a visual trap increased the risk of crashes in the northeast region (Figure 2-8) and, therefore, received a star.
5. **Severe Crashes** – If a severe crash occurred on a curve between 2008 and 2012, the curve received a star.

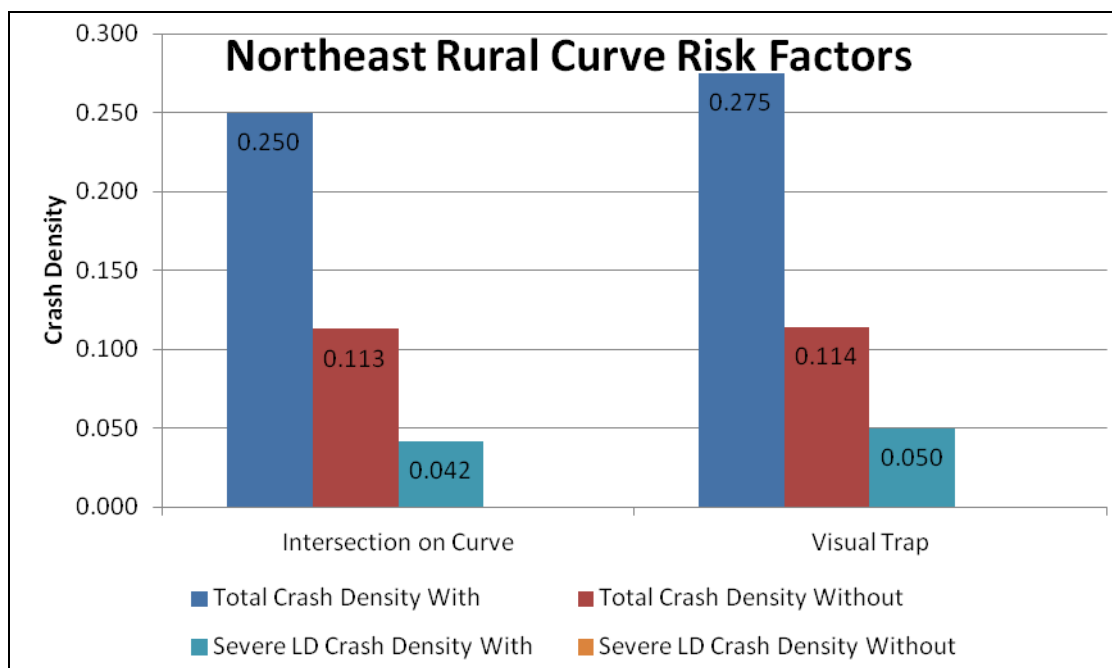


FIGURE 2-8

Rural Curve Risk Factors for the Northeast Region

NOTE: The severe lane-departure (LD) crash density without risk factor present was zero.

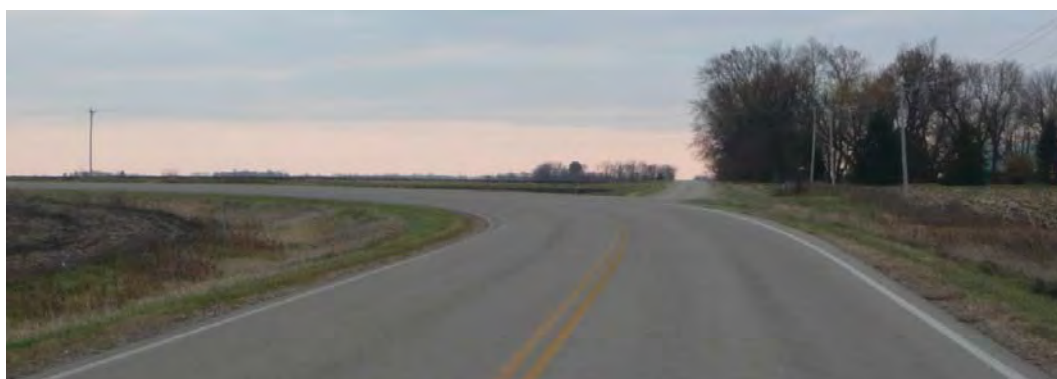


FIGURE 2-9

Example of a Visual Trap – Minor Road Intersects Roadway on a Curve

Based on 19 total crashes and 2 severe lane-departure crashes in the northeast region, curves with intersections and visual traps have a higher crash density (are more at risk) than those without such features. These risk factors have also been observed nationally.

Detailed curve analysis and results for the five northeast region counties is provided in Chapter 4. The five risk factors were used to prioritize curves in the northeast region, with the highest-priority curves receiving the most stars. Curves were reviewed for proximity to high-priority curves and existing conditions as well.

Curves in the northeast region were screened for compliance with the *Manual on Uniform Traffic Control Devices* (MUTCD; 2009) requirement regarding traffic signs at horizontal curves. Under

this requirement, a curve must have an advance horizontal alignment warning sign if the daily traffic is greater than 1,000 vehicles per day and if speed differentials (the difference between the speed limit and the advisory speed) meet certain thresholds. A horizontal alignment sign and advisory speed plaque are recommended when the speed differential is 5 mph, and they are required if the speed differential is 10 mph or greater. Curve radius was used to estimate whether individual curves meet the speed differential requirements for advance warning signs and advisory speed plaques. The estimated advisory speeds (assuming a 55-mph speed limit, 6-percent superelevation, and a friction factor consistent with the AASHTO Green Book) based on the curve radius are as follows:

- 900 to 1,100 feet – 50 mph
- 700 to 900 feet – 45 mph
- 500 to 700 feet – 40 mph
- 300 to 500 feet – 35 mph
- Under 300 feet – 30 mph or slower

For this analysis, no suggested advisory speed is provided for curves with a radius under 300 feet; these curves should be investigated further by the county to determine the appropriate advisory speed. Additionally, it is recommended that the county complete its own ball-bank indicator assessment of all curves to determine whether the curves on their road system meet the MUTCD requirement and to verify suggested advisory speeds.

If a curve was not selected as a project candidate through the LRSP risk assessment process (although the curve has an ADT greater than 1,000 vehicles per day and a radius under 1,100 feet), the curve was flagged for the County to determine the need for additional signs based on MUTCD guidance.

2.3.3 Rural Intersections – Crashes at Thru-STOP Intersections

On the northeast rural local roads, a severe crash is most common at Thru-STOP intersections,² where 100 percent of severe intersection crashes (5 crashes) occurred from 2008 to 2012 (Figure 2-10). Severe right-angle and angle crashes are the most common types of crashes at these intersections (Figure 2-11). While there are few crashes in the northeast region, statewide crash data support these crash types as the most common at rural Thru-STOP locations.

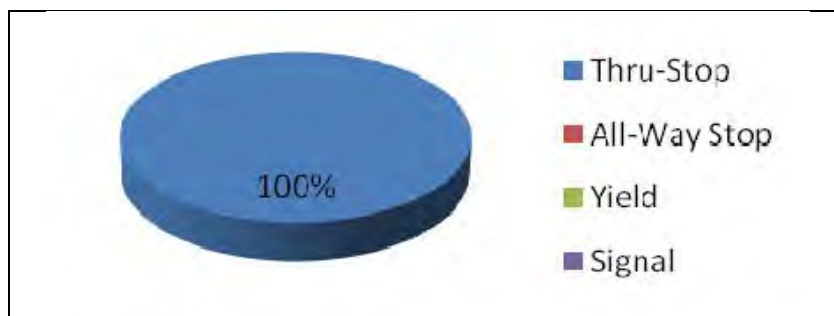


FIGURE 2-10

Northeast Region Rural Severe Crashes by Traffic Control Device (2008 to 2012)

NOTE: The percentage of all-way stop, yield, and signalized intersections crashes was zero.

² Those intersections where traffic on the more heavily used road may proceed through the intersection without stopping, while traffic on the less-used crossroad must stop at the STOP sign before proceeding through the intersection.

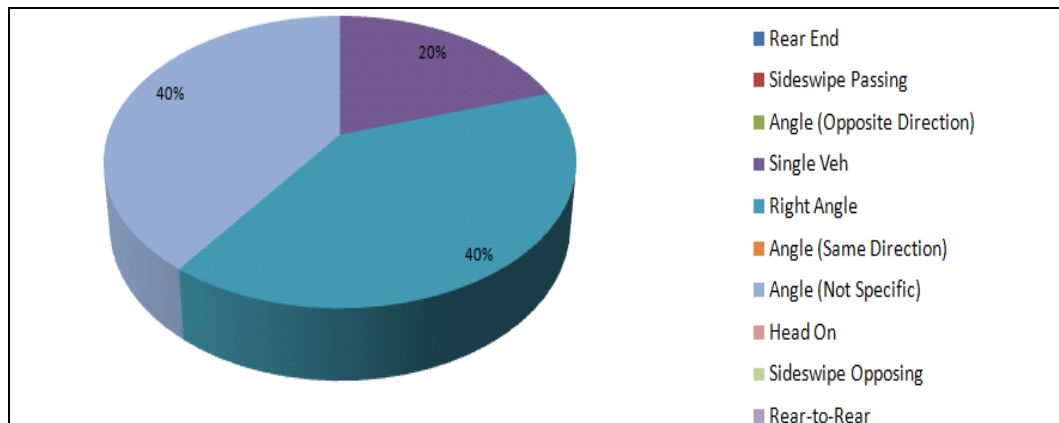


FIGURE 2-11

Northeast Region Rural Severe Crash Types (2008 to 2012)

NOTE: The percentage of rear-end, sideswipe-passing, angle (opposite direction), angle (same direction), head-on, sideswipe-opposing, and rear-to-rear crashes was zero.

In the northeast region, 225 rural intersections with 180 Thru-STOP locations were reviewed. The average severe crash density at rural Thru-STOP locations is 0.006 severe crash per intersection per year. This low density supports assessing an intersection risk based on the characteristics of the locations where severe crashes occurred. The following seven rural Thru-STOP risk factors were identified for severe right-angle crashes in the northeast region:

1. **ADT Cross Product** – 100 percent of the severe right angle crashes at rural Thru-STOP intersections occurred at intersections with an ADT cross product³ of major and minor entering vehicles greater than 100,000 (Figure 2-12). An intersection was considered to have a higher risk of severe right-angle crashes if the ADT cross product was greater than 100,000. These intersections received a star.

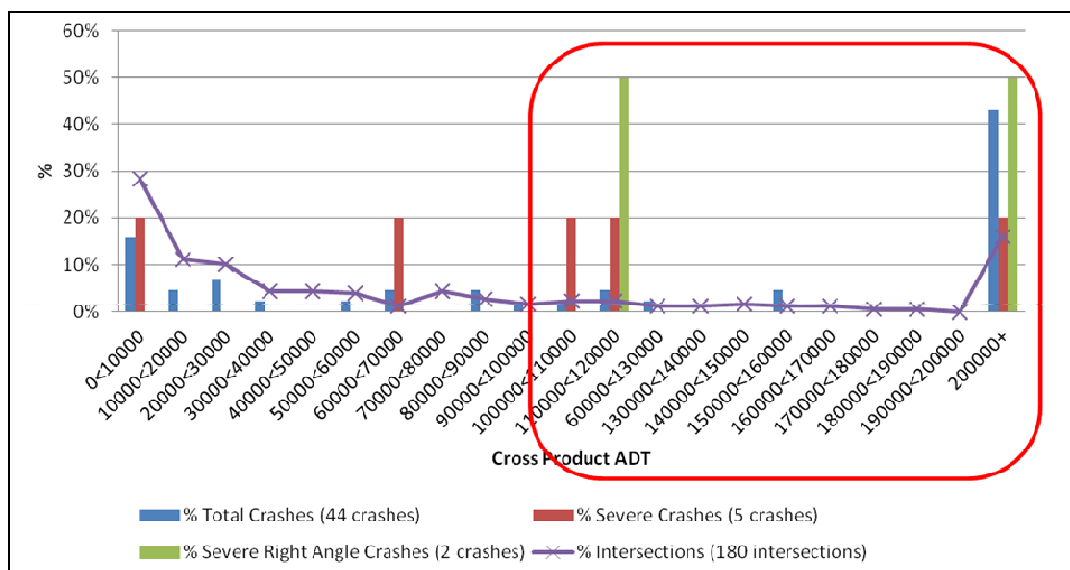


FIGURE 2-12

Northeast Region Rural Intersection ADT Cross Product (2008 to 2012)

³ The ADT cross product is the major-street entering volume multiplied by the minor-street entering volume.

2. **Skew** – As the intersection skew (the angle at which one road intersects another) increases, the crash risk also increases (Figure 2-13). At a 20-degree skew, the crash risk compared to that of a 90-degree intersection is increased by approximately 10 percent. While the northeast severe right-angle crash data set was too small to determine if skew plays a role in crashes, it has been proven nationally that the greater the skew, the greater the likelihood for a crash (Figure 2-14). Intersections with a skew greater than 20 degrees received a star.

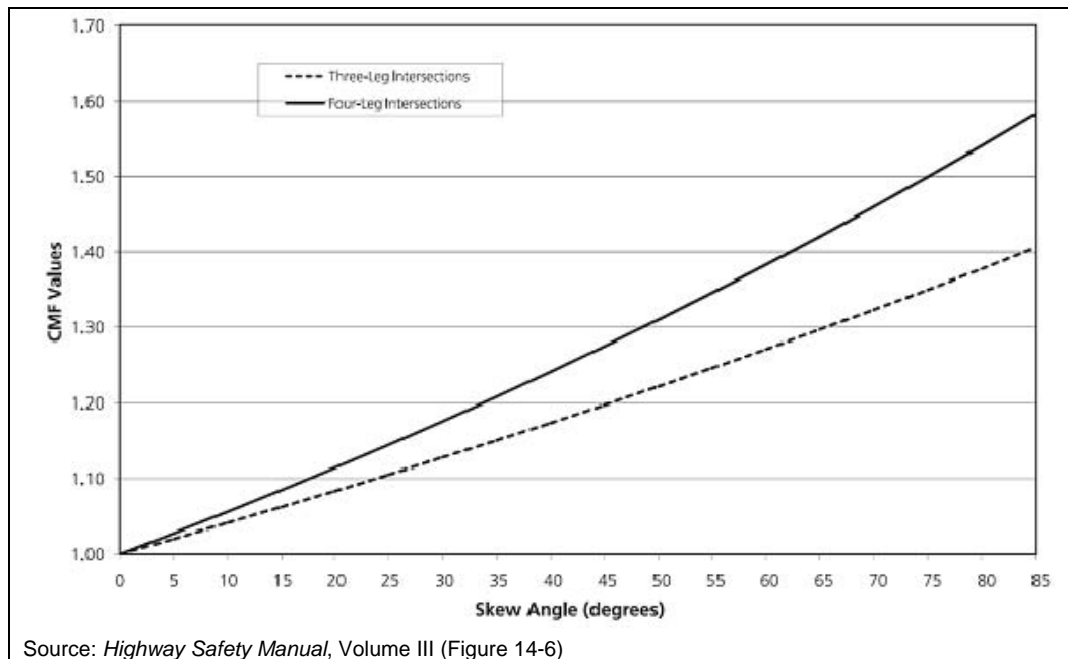


FIGURE 2-13
Intersection Skew Risk

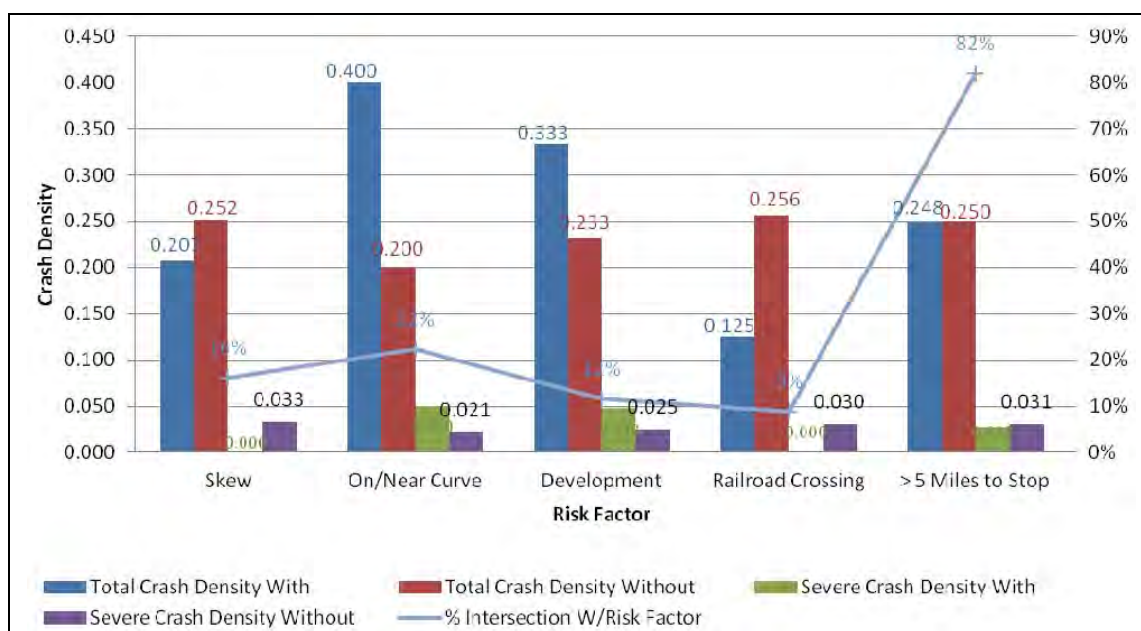


FIGURE 2-14
Rural Intersection Risk Factors for the Northeast Region (2008 to 2012)

3. **In or Near a Curve** – Research has shown that intersections located within or near a horizontal curve are subject to a higher level of risk. In the northeast region, intersections located in or near a horizontal curve received a star.
4. **Development Present** – Research has shown that intersections with commercial development in one or more quadrants have a higher level of risk, possibly due to vehicles entering or exiting the development. Private residences or farms were not included as development. Northeast region intersections with development present had more severe crash rates (Figure 2-14) and therefore received a star.
5. **Railroad Crossing** – Intersections at or near a railroad crossing are subject to increased risk because drivers must navigate the railroad tracks while approaching the intersection. National data were used for this risk factor due to the small number of severe crashes in the northeast region. An intersection with a railroad crossing on one of the approaches received a star.
6. **Previous STOP More than 5 Miles Before the Intersection** – When traveling longer distances without encountering a STOP sign, drivers lose attention, and research has shown those intersections to be at higher risk (Figure 2-14). While the northeast data had an almost even split between intersections with and without this feature, national data were used to confirm this risk factor. Intersections without a STOP sign within 5 miles received a star.
7. **Total Crashes** – If an intersection had any type of crash from 2008 to 2012, the intersection received a star.

The northeast region had 44 total intersection crashes from 2008 to 2012, and only 5 of those crashes are severe. Due to the small number of severe crashes, some of the data and risk factors may be misleading based on the northeast region alone. National data were frequently used to confirm intersection risk factors for the northeast region.

Detailed intersection analysis and results for the five northeast region counties is provided in Chapter 4. Due to the large number of intersections in each county, each intersection was prioritized using the seven risk factors by giving stars to each risk factor present. The highest-priority intersections received the most stars. In cases where intersections received the same number of stars, crash costs were used to break the tie and determine priority.

2.3.4 Urban Roadway Segments – Cities with Populations Greater than 5,000 (Devils Lake)

Approximately 34 miles of urban local roads were reviewed. From 2008 to 2012, 618 total and 13 severe crashes occurred on these roads. Nationally, research has shown that rear-end and head-on crashes are most common on urban local roads. In Devils Lake, 141 rear-end crashes and 9 head-on crashes occurred from 2008 to 2012.

Although a variety of data was collected for each local segment, only the following four risk factors were identified for the northeast region:

1. **Average Daily Traffic (ADT)** – Both rear-end and head-on crashes were overrepresented in road corridors with ADT volumes greater than 4,500 vehicles per day (Figure 2-15). (Note: This ADT volume includes data from Minot and Bismark.) Corridors with an ADT greater than 4,500 vehicles per day received a star.

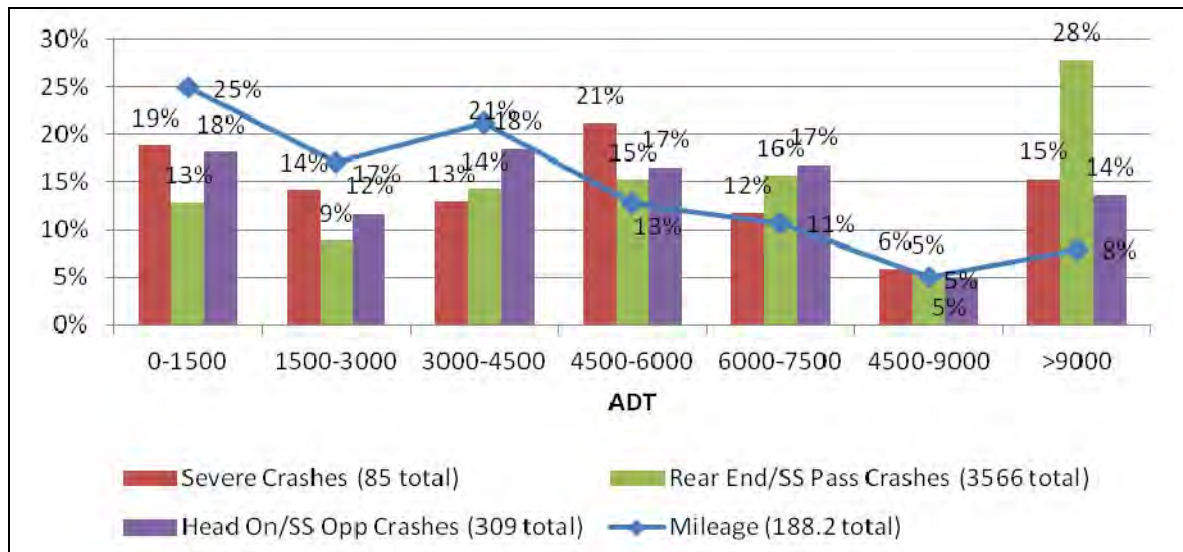


FIGURE 2-15
Phase I Urban Segment Average Daily Traffic (ADT) (2008 to 2012)

2. **Access Density** – Rear-end and head-on crashes are overrepresented in the northeast region (Devils Lake) along corridors with access densities greater than or equal to 45 access points per mile (Figure 2-16), and therefore received a star.

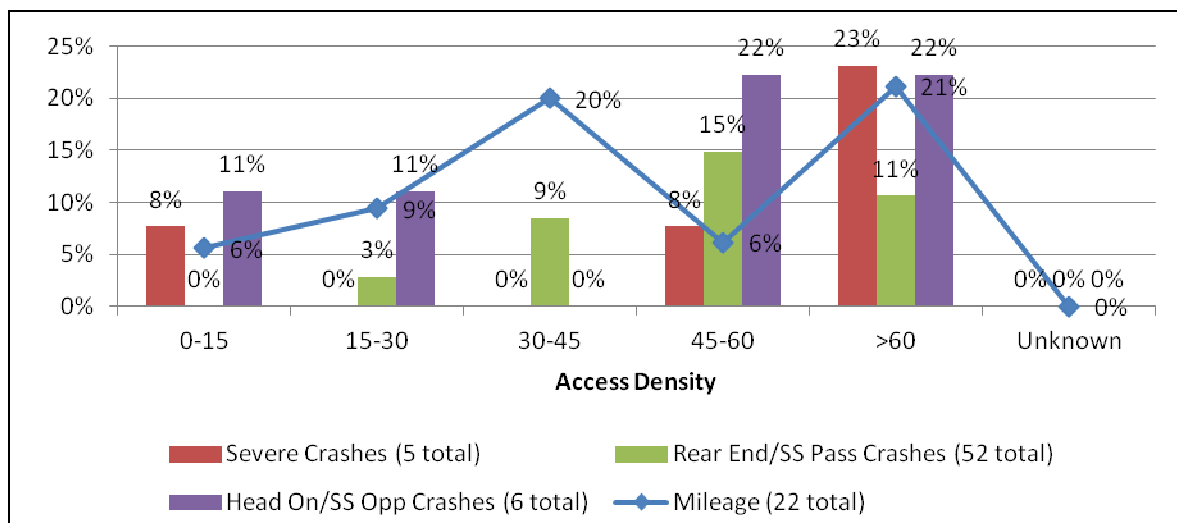


FIGURE 2-16
Devils Lake Urban Roadway Segment Access Density (2008 to 2012)

3. **Road Geometry** – Crashes are overrepresented per corridor mile on roadways with three or more lanes (Figure 2-17), and were given a star.
4. **Speed Limit** – Severe rear-end and head-on crashes were overrepresented in low-speed corridors (40 mph or less) (Figure 2-18), and therefore received a star.

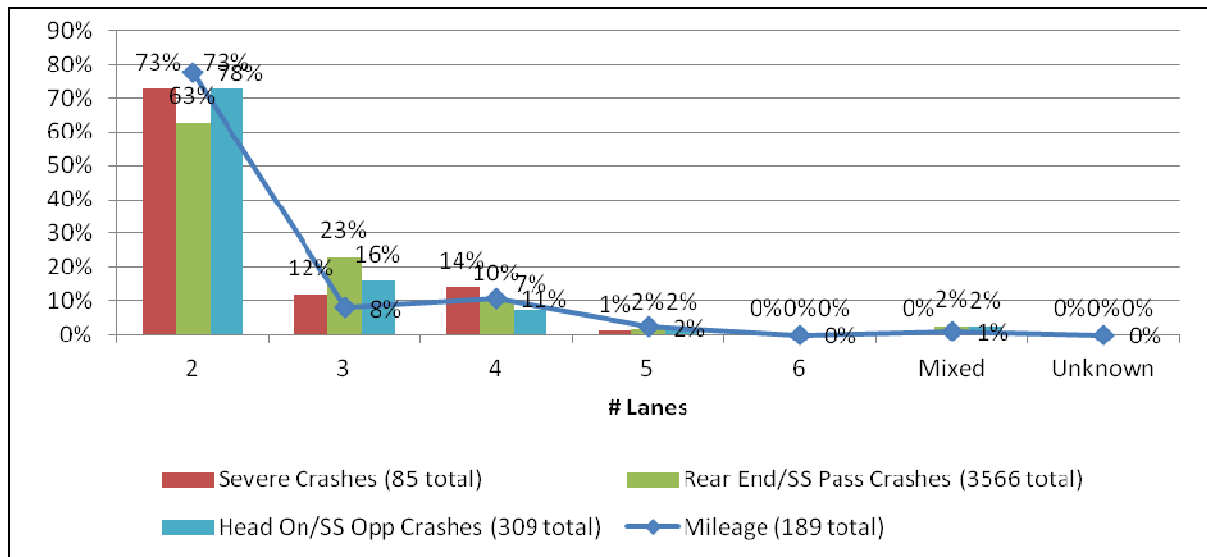


FIGURE 2-17
Phase I Urban Road Geometry (2008 to 2012)

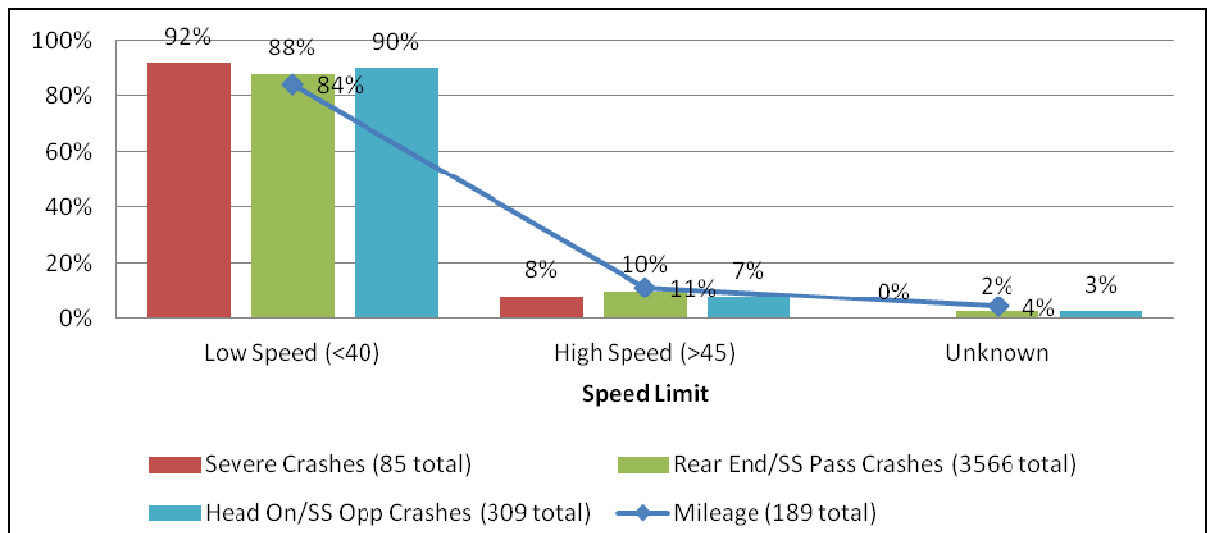


FIGURE 2-18
Phase I Urban Roadway Segment Crashes by Speed (2008 to 2012)

Detailed urban segment analysis and results for Devils Lake is provided in Chapter 4. The four risk factors were used to prioritize roadway segments, with the highest-priority segments receiving the most stars. High-priority roadway segments were also reviewed from a corridor perspective so that suggested safety improvement projects create a consistent corridor throughout the urban area.

2.3.5 Urban Intersections – Right-Angle Crashes, Cities with Populations Greater than 5,000 (Devils Lake)

In Devils Lake, 74 intersections including 7 signalized intersections were analyzed. Of the 69 total crashes, only 8 severe crashes occurred at the Devils Lake urban intersections analyzed. These data support assessing an intersection's risk based on the characteristics of locations with severe crashes. A variety of information was collected on each intersection and from that, four risk factors for right-angle crashes were chosen:

1. **Traffic Control Device** – Severe crashes are overrepresented at signalized intersections versus other intersection control types in urban areas (Figure 2-19). Therefore, signalized intersections received a star.

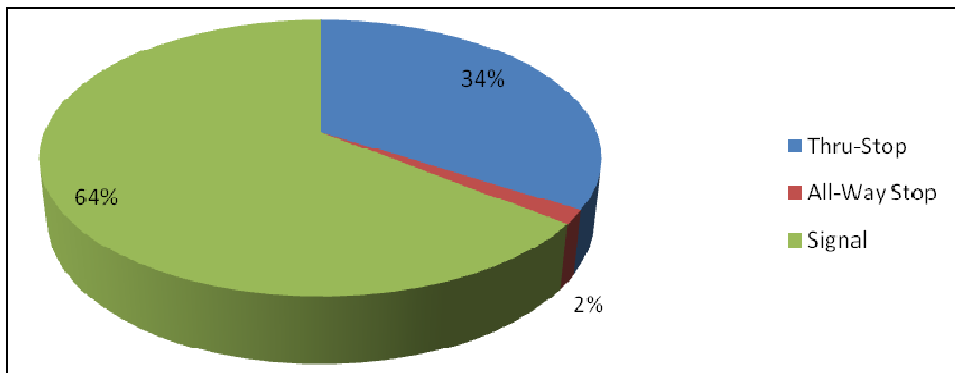


FIGURE 2-19
Phase I Urban Severe Crashes by Intersection Traffic Control Device (2008 to 2012)

2. **Entering ADT** – Higher volumes of vehicles entering intersections was considered a risk factor. All right-angle crashes at signalized intersections in the northeast region (Devils Lake) occurred at intersections with an entering vehicles ADT of greater than 7,500 vehicles per day (Figure 2-20). Therefore, any intersection with an entering vehicles ADT greater than 7,500 vehicles per day received a star.

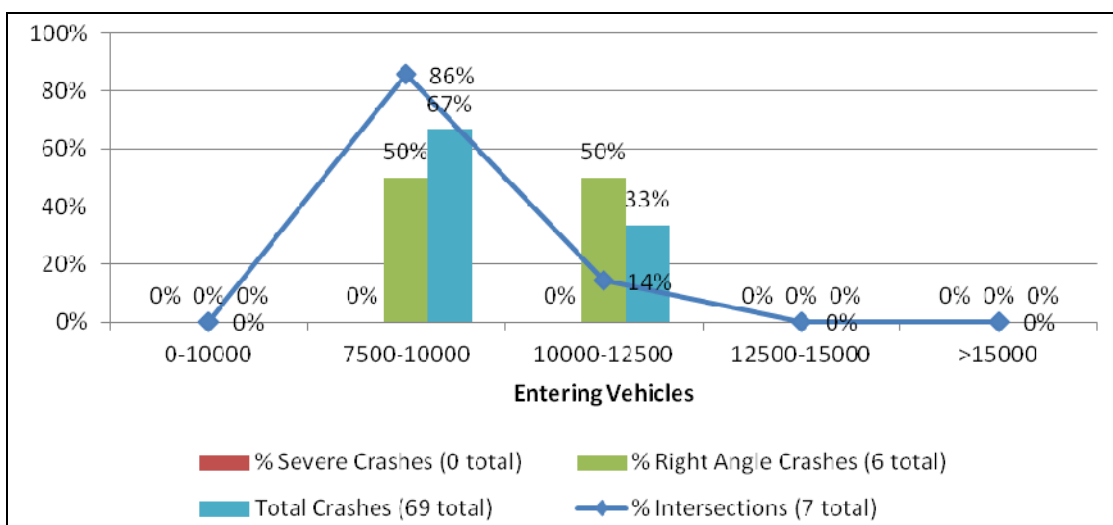


FIGURE 2-20
Devils Lake Urban Crashes by Intersection Entering Vehicles Average Daily Traffic (ADT)

3. **Road Geometry** – Severe and right-angle crashes were overrepresented on divided roadways with signalized intersections (Figure 2-21). Therefore, intersections on divided roadways received a star.
4. **Severe Crashes** – Any intersection where one or more severe crashes had occurred received a star.

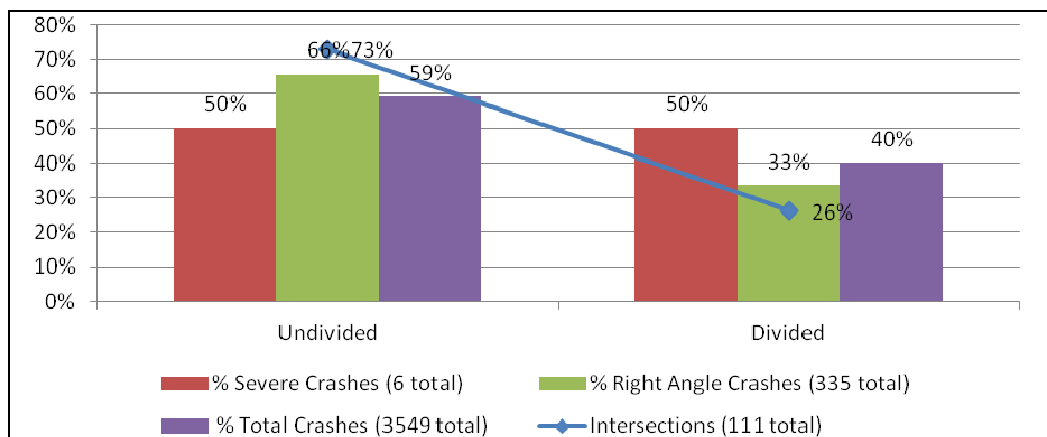


FIGURE 2-21
Northeast Region Urban Crashes by Intersection Configuration

Detailed urban intersection right angle analysis and results for Devils Lake is in Chapter 4. The four risk factors previously listed were used to help prioritize intersections with the highest priority intersections receiving the most stars. Right-angle crash intersections were reviewed as urban corridors to create a consistent corridor throughout the urban area and to discourage implementing strategies at just one or two high-priority intersections along a corridor if the remaining intersections have the same characteristics.

2.3.6 Urban Intersections – Pedestrian/Bicycle Crashes, Cities with Populations Greater than 5,000 (Devils Lake)

Similar analysis was completed for pedestrian and bicycle crashes at intersections. Only 3 severe pedestrian and bicycle crashes occurred at Devils Lake intersections from 2008 to 2012; therefore, the data have been combined with all of the Phase I urban intersection analysis. Four risk factors were identified based on the analysis:

1. **Traffic Control Device** - Severe pedestrian and bicycle crashes are overrepresented at signalized intersections versus other intersection control types in urban areas (Figure 2-22). Therefore, signalized intersections received a star.

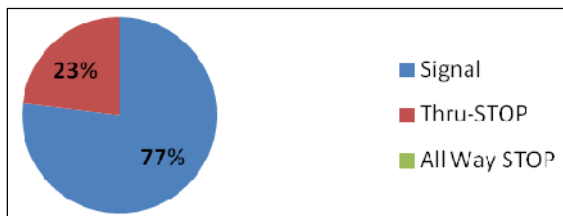


FIGURE 2-22
Phase I Urban Pedestrian/Bike Crashes by Intersection Traffic Control Devices
NOTE: The percentage of all-way STOP crashes was zero.

2. **Entering Vehicles ADT** – A high volume of vehicles entering an intersection was considered a risk factor. All of the northeast region severe pedestrian and bicycle crashes occurred at intersections with an entering vehicles ADT of 7,500 vehicles per day. Therefore, any intersection with an entering vehicles ADT of 7,500 vehicles per day or greater received a star.
3. **Pedestrian Generator** – Intersections with adjacent land uses likely to generate pedestrian traffic (such as a bar or gas station) had a higher pedestrian and bicycle crash risk than other intersections (Figure 2-23). Therefore, an intersection with a pedestrian generator present received a star.
4. **Pedestrian and Bicycle Crashes** – Any intersections that had any bicycle or pedestrian crash from 2008 to 2012 received a star.

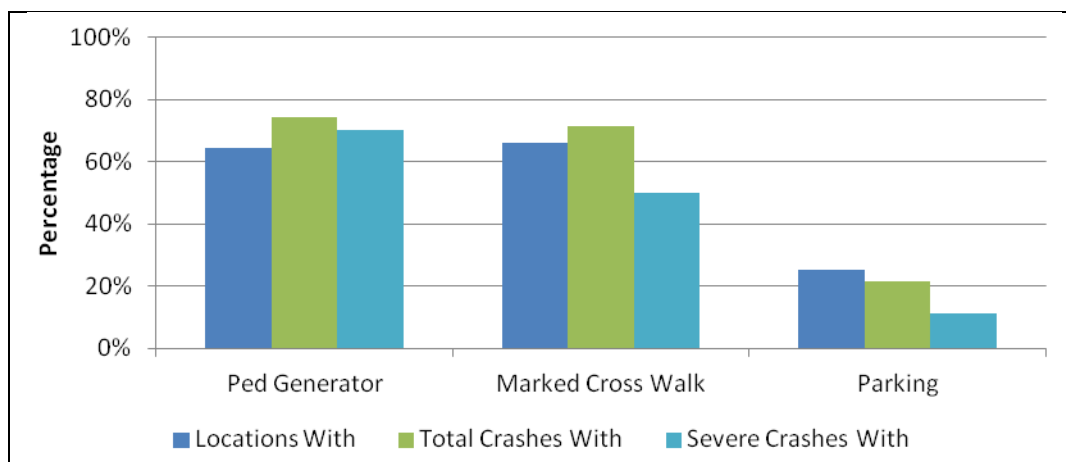


FIGURE 2-23
Phase I Pedestrian and Bicycle Crashes at Urban Signalized Intersection with a Pedestrian Generator

Detailed urban intersection pedestrian and bicycle analysis and results for Devils Lake are provided in Chapter 4. The four risk factors were used to prioritize intersections with the highest-priority intersections receiving the most stars. Pedestrian and bicycle crash intersections were reviewed as urban corridors to create a consistent corridor throughout the urban area.

2.4 Northeast Region Risk Summary

Table 2-3 summarizes the risk factors, ranges, and sources used in the northeast region systemic analysis.

TABLE 2-3
Northeast Region Risk Summary

Risk Factors	Northeast Region		
	Minimum	Maximum	Source
Rural Roadway Segments			
ADT Range	150	500	Northeast Region
Lane-Departure Crash Density	0.032	Unlimited	Average Northeast Region
Access Density	8	Unlimited	National
Critical-Radius Curve Density	0.084	Unlimited	Average Northeast Region
ERA	2	3	Northeast Region
Rural Curves			
Radius	500	1,200	Northeast Region, Burleigh County, Ward County
ADT Range	350	650	Northeast Region
Intersection in Curve	Present		Northeast Region
Visual Trap	Present		Northeast Region
Severe Crashes	1	Unlimited	Northeast Region
Rural Intersections			
ADT Cross Product	100,000	Unlimited	Northeast Region
Skew	Present		National
In/Near Curve	Present		Northeast Region
Development	Present		Northeast Region
Railroad Crossing	Present		National
Previous STOP >5 Miles	Present		National
Total Crashes	1	Unlimited	Northeast Region
Urban Roadway Segments			
ADT	4,500	Unlimited	Northeast Region, Burleigh County, Ward County
Road Geometry	Multi-Lane		Northeast Region, Burleigh County, Ward County
Access Density	45	Unlimited	Northeast Region
Corridor Speeds	Low		Northeast Region, Burleigh County, Ward County
Urban Right-Angle Crash Corridors			
Entering Vehicles ADT	7,500	Unlimited	Northeast Region
Traffic Control	Signal		Northeast Region, Burleigh County, Ward County
Road Geometry	Divided		Northeast Region, Burleigh County, Ward County
Severe Crashes	1	Unlimited	Northeast Region, Burleigh County, Ward County
Urban Pedestrian/Bicycle Crash Corridors			
Traffic Control	Signal		Northeast Region, Burleigh County, Ward County
Entering Vehicles ADT	7,500	Unlimited	Northeast Region
Pedestrian Generator	Yes		Northeast Region, Burleigh County, Ward County
Pedestrian/Bicycle Crashes	1	Unlimited	Northeast Region, Burleigh County, Ward County
Notes: ADT = average daily traffic ERA = edge risk assessment			



3.0 Northeast Region Priority Safety Strategies

3.1 Background

A variety of strategies are available to address each safety emphasis area. The implementation of high-priority strategies will assist state and local agencies in reducing traffic-related fatalities and serious injuries. The primary sources for these strategies are the National Cooperative Highway Research Program (NCHRP) *Report 500* series and the National Highway Traffic Safety Administration (NHTSA) *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*, (Seventh Edition, 2013). Each guide includes a description of the problem, strategies, and model implementation processes. In addition, to assist practitioners in assessing the safety strategies, the guides document the expected effectiveness of each strategy by assigning them to one of the following categories:

- **Proven:** These strategies have been used in multiple locations with multiple studies, and have been demonstrated to be effective.
- **Tried:** These strategies have been implemented in many locations; however, no rigorous evaluations have been completed to determine their effectiveness.
- **Experimental:** These strategies represent ideas that are considered to be effective; however, the ideas have not been widely implemented or evaluated.

3.2 Initial/Comprehensive List of Potential Strategies

NCHRP safety strategies were the basis for identifying safety strategies for the LRSP. For the LRSP process, NDDOT team members sought to identify viable safety strategies for the top safety emphasis areas (see Tables 3-1 through 3-9). The LRSP team reviewed the full range of safety strategies, and did an initial screening based on cost and effectiveness. For example, the NCHRP report lists over 70 potential strategies to address intersection safety. The screening conducted by the LRSP team narrowed the list of strategies for all safety emphasis areas down to strategies considered to be the most applicable in North Dakota.

Behavioral strategies include information on the expected impact of the strategy based on current practice and results. Strategies with high impact have been shown to have influence on driver behavior.

Each infrastructure strategy includes information on the relative cost to implement or operate, along with the typical timeframe for implementation. Relative costs were separated into three categories:

- Low = less than \$10,000 per mile or location
- Medium = between \$10,000 and \$100,000 per mile or location
- High = more than \$100,000 per mile or location

The typical timeframe to implement the strategy was also separated into three categories:

- Short = less than 1 year to implement
- Medium = between 1 and 2 years to implement
- Long = more than 2 years to implement

TABLE 3-1
Impaired Driving Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Eliminate Drinking and Driving	A1 – Require responsible beverage service policies for alcohol servers and retailers	Proven	Advocate for responsible alcohol server and retailer training
	A2 – Employ screening and brief interventions regarding impaired driving risks	Tried	Enforcement or health care provider conducts brief intervention with crash victim after an alcohol-related crash (traumatic event) on risks and consequences of drinking and driving. Develop fact sheets and materials to be used. North Dakota Impaired Driver Safety Facts: http://www.ugpti.org/rtssc/briefs/downloads/2012_Impaired.pdf
	A3 – Support community programs for alternative transportation	Tried	Employ “Safe Cab” initiatives via partnership among beer distributors, bar owners, and county/city community programs. Conduct public outreach on accessible safe-ride alternatives.
	A4 – Promote sobriety initiatives for driving-under-the-influence (DUI) offenders	Proven	Promote 24/7 and ignition interlock programs through educating local judicial and legal counsel members, probation officers, and counseling and treatment providers, as well as the general public.
B – Enforce DUI Laws	B1 – Conduct regular high-visibility DUI enforcement saturations	Proven	A saturation is a multi-agency, multi-squad car enforcement effort. Agencies work in collaboration to provide high-visibility enforcement for high-risk roadways. High visibility enforcement includes multiple jurisdictions and/or multiple squads that are out at the same time patrolling in brightly colored vests, using signage about the enforcement and engaging the media for public outreach about the enforcement effort.
	B2 – Conduct enforcement, education and awareness campaign of the targeted enforcement of zero tolerance laws for drivers under age 21	Tried	Publicizing is best done through community events for the local media and a public education campaign in the community about the high visibility enforcement effort.
	B3 – Expand use of DUI sobriety checkpoints	Proven	Local law enforcement to expand the use of multi-jurisdictional sobriety checkpoints that include public outreach/media campaigns about the checkpoints.
	B4 – Monitor convicted DUI offenders closely	Proven	Monitor judicial sentencing of local DUI courts or intensive supervision programs

TABLE 3-2
Seat Belt Use Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Enforce seat belt use laws	A1 – Conduct highly publicized enforcement campaigns to maximize restraint use. Specifically, nighttime belt enforcement saturation	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the enforcement. Methods for nighttime enforcement include having multi-agency and multiple squad cars in well-lit areas where slow-moving vehicles are passing and conducting seat belt observations for a limited time.
	A2 – Pursue local ordinances for primary enforcement of seat belt laws	Proven	Under tribal and/or local ordinance, pursue primary seat belt enforcement for occupants in all seating positions. <i>White Earth Tribal Council passes primary seat belt law.</i> http://staging.dl-online.com/content/white-earth-council-passes-seat-belt-law
B – Maximize use of occupant restraints by all vehicle occupants	B1 – Encourage employers to 1) offer education programs to employees, and 2) enact traffic safety policies with clear consequences for failure to comply	Tried	Utilize materials and policy statements designed for employers by Network of Employers for Traffic Safety. For example, seat belt use employer policies and resources: http://www.mnsafetycouncil.org/nets/EducationMaterials.cfm
	B2 – Brief intervention regarding unbelted risks	Tried	Enforcement or health care provider conducts brief intervention with crash victim after an unbelted crash (traumatic event) on unbelted risks and consequences. Develop fact sheets and materials to be used. North Dakota Seat Belt Fact Sheet: http://www.ugpti.org/rtssc/briefs/downloads/2012_SeatBelts.pdf

TABLE 3-3
Motorcycle Safety Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Reduce the number of motorcycle crashes due to rider impairment	A1 – Publicize and conduct a high-visibility enforcement of all laws pertaining to motorcycle riding	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the enforcement. High-visibility enforcement is when multiple jurisdictions and/or multiple squads are out at the same time patrolling in brightly colored vests, signage, and media outreach about the enforcement. Methods for nighttime enforcement include having multi-agency and multiple squad cars in well lit areas where slow-moving riders are passing.
	A2 – Support law enforcement to identify specific motorcycle rider impairment behaviors that have been shown to contribute to crashes	Proven	Provide enforcement with motorcycle rider DUI detection resources. National Highway Traffic Safety Administration (NHTSA) Motorcycle rider DUI Detection Guide: http://www.nhtsa.gov/people/injury/pedbimot/motorcycle/610DWIMotorcyWeb/pages/
B – Reduce the number of motorcycle crashes due to unlicensed or untrained motorcycle riders	B1 – Ensure that licensing and rider training programs adequately teach and measure skills and behaviors required for crash avoidance	Tried	Host local motorcycle safety training courses to provide greater access to riders.
	B2 – Identify and remove barriers to obtaining a motorcycle endorsement	Tried	Host local motorcycle skills testing programs to enhance rider safety and prepare and encourage riders to obtain motorcycle endorsement.
C – Increase visibility of riders	C1 – Increase the awareness of the benefit of high-visibility clothing and rider conspicuity	Experimental	Publicizing is best done through the local media and a public education campaign in the community.
D – Reduce the severity of motorcycle crashes	D1 – Increase the use of FMVSS 218-compliant helmets	Proven	Conduct local public outreach on the benefits of motorcycle helmet use.

TABLE 3-4
Speed and Aggressive Driving Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Deter aggressive driving in specific populations, including those with a history of such behavior, and at specific locations	A1 – Review crash data	Proven	Analyze crash data to define high-risk speed locations for enhanced enforcement and public outreach efforts.
	A2 – Conduct high-visibility targeted enforcement of speeding and aggressive driving	Proven	Agencies work in collaboration to provide high-visibility enforcement for high-risk roadways. High-visibility enforcement includes multiple jurisdictions and/or multiple squads that are out at the same time patrolling in brightly colored vests, using signage about the enforcement, and engaging the media for public outreach about the enforcement effort.
	A3 – Pursue local ordinances to utilize automated enforcement in high-risk areas	Proven	Under local ordinance, pursue the use of automated enforcement (speed and red-light running cameras) in high-risk highway work zones and school crossing zones. Ohio Law Enforcement Liaison Coordinator for example local ordinances using automated enforcement: http://ohiohighwaysafetyoffice.ohio.gov/doc/2013LELMap.pdf
B – Maximize driver compliance and awareness	B1 —Brief intervention regarding speed	Tried	Enforcement or health care provider conducts brief intervention with crash victim after crash due to excessive speed (traumatic event) on speed-related risks and consequences. Develop fact sheets and materials to be used. North Dakota Speed Fact Sheet: http://www.ugpti.org/rtssc/briefs/
	B2 – Increase driver awareness of speed using speed reader boards or driver feedback signs	Proven	Speed reader boards provide feedback to drivers on their actual speed. Some flash warnings when speeds reach a pre-set limit. Most effective in slowing traffic on residential streets, near school zones, and around playgrounds.

TABLE 3-5
Young Driver Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Publicize, enforce, and adjudicate laws pertaining to young drivers	A1 – Publicize and conduct a high-visibility enforcement graduated drivers license (GDL) restrictions; cell and texting laws; underage drinking and driving; and seatbelt laws	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the applicable laws, parental involvement and the enforcement. High-visibility enforcement is when multiple jurisdictions and/or multiple squads are out at the same time patrolling in areas frequented by teen drivers, with brightly colored vests, signage, and media outreach about the enforcement.
	B1 – Encourage driver education providers (local schools and private providers) to require parent education component	Tried	Local driver education providers including local schools and private providers require 2-hour parent education program to educate parents about teen driving risks, Graduated driving license (GDL) provisions and their protections, parental role in supervising teen driving skill development, encourage selection of safer vehicles for teen driver, and to facilitate Parent/Teen Driving Agreements. <i>teendriversource: Research Put into Action</i> for PowerPoint presentations, parent/teen activities, and other tools to be adopted for driver education providers. www.teendriversource.org <i>Teen Driving Parents/Alive at 25</i> for 1-hour parent, 4-hour teen driving program including comprehensive publication, <i>Teen Driver; A Family Guide to Teen Safe Driving</i> : http://www.nsc.org/products_training/Products/MotorVehicleSafety/Pages/TeenDriving.aspx
	B2 – Promote use of in-vehicle teen safety technology	Experimental	To help reduce and eliminate teen driving distractions and high-risk driving maneuvers (excessive speed, hard acceleration, deceleration, and swerves) promote the use of in-vehicle monitoring devices for parental monitoring and coaching.
	B3 – Develop safe teen driving outreach materials for parents	Tried	Encourage driver education, local insurance, and public health organizations to provide parents of teen drivers with brochures, guides, and web resources to help parents understand risks, GDL provisions, their role, and how to develop a Parent/Teen Driving Agreement, and online driving logs. <i>Parents are the Key</i> for free downloadable resources (can be customized): www.cdcgov/ParentsAreTheKey/ <i>Teen Driving Parents/Alive at 25</i> for the comprehensive guide: <i>Teen Driver; A Family Guide to Teen Safe Driving</i> : http://www.nsc.org/products_training/Products/MotorVehicleSafety/Pages/TeenDriving.aspx
	B4 – Provide information on insurance provider parent-teen safe driving programs	Tried	Inform parents of local insurance programs providing policy discounts for parents and their teen enrolling in parent-teen safe driving programs.

TABLE 3-5
Young Driver Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
C – Educate Young Drivers	C1 – Brief interventions regarding driving risks and consequences	Tried	When teen driver receives a moving violation or is involved in a crash, enforcement or health care provider conducts brief intervention with crash victim after crash (traumatic event) on driving risks and consequences.

TABLE 3-6
Speeding Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Set appropriate speed limits	A1 – Install speed signage using variable message signs in school zones	Tried	Low	Medium
B – Communicate appropriate speeds through use of traffic control devices	B1 – Implement active speed warning signs, including dynamic message boards at rural to urban transitions	Tried	Low	Medium
	B2 – Use in-pavement measures to communicate the need to reduce speeds	Tried	Moderate	Short
C – Ensure that roadway design and traffic control elements support appropriate and safe speeds	C1 – Effect safe speed transitions through design elements and on approaches to lower-speed areas	Tried	High	Long
<p>Notes:</p> <p>¹ Cost: Low = <\$100,000 per intersection; Moderate = \$100,000 to \$500,000 per intersection; High = >\$500,000 per intersection</p> <p>² Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years</p> <p>Source: NCHRP Report 500 Series, 2004</p>				

TABLE 3-7
Lane Departure Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Keep vehicles from encroaching on the roadside	A1 – Install shoulder rumble strips	Proven	Low	Short
	A2 – Install enhanced pavement markings, edge line rumble strips, modified shoulder rumble strips, 6-inch edge line, or embedded wet-reflective pavement markings on sections with narrow or no paved shoulders	Experimental / Tried	Low	Short
	A3 – Provide enhanced shoulders, lighting, delineation (for example, Chevrons), or pavement markings for sharp horizontal curves	Tried / Proven	Low	Short
	A4 – Provide skid-resistance pavement surfaces	Proven	Moderate	Medium
	A5 – Apply shoulder treatments * Eliminate shoulder drop-offs from paved road to unpaved shoulder * Safety edge * Widen and/or pave shoulders	Experimental / Proven	Moderate	Medium
B – Minimize the likelihood of crashing into an object or overturning if the vehicle travels off the shoulder	B1 – Design safer slopes and ditches to prevent rollovers	Proven	Moderate to High	Medium
	B2 – Remove/relocate objects in hazardous locations	Proven	Moderate to High	Medium
C – Reduce the severity of the crash	C1 – Improve design and application of barrier and attenuation systems	Tried	Moderate to High	Medium
D – Keep vehicles from encroaching into opposite lane	D1 – Install centerline rumble strips for two-lane roads	Tried	Low	Short
	D2 – Reallocate total two-lane roadway width (lane and shoulder) to include a “buffer median”	Tried	Low	Medium
E – Minimize the likelihood of crashing into an oncoming vehicle	E1 – Use alternating passing lanes or four-lane sections at key locations (Swedish “2+1”)	Tried	Moderate to High	Medium
	E2 – Install cable median barriers for medians on multilane roads	Tried	Moderate	Medium
Notes: ¹ Cost: Low = <\$10,000 per mile; Moderate = \$10,000 to \$100,000 per mile; High = >\$100,000 per mile ² Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years Source: NCHRP Report 500 Series, 2003				

TABLE 3-8
Signalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Reduce frequency and severity of intersection conflicts through traffic control and operational improvements	A1 – Optimize signal operation (phasing/timing, etc.)	Tried / Proven	Low	Short
	A2 – Optimize clearance intervals	Proven	Low	Short
	A3 – Employ signal coordination along a corridor or route	Proven	Low	Medium
	A4 – Employ emergency vehicle preemption	Proven	Moderate	Medium
	A5 – Provide countdown timers, advanced walk phase, and other low-cost pedestrian/bicycle facility improvements	Tried / Proven	Low	Short
B – Reduce frequency and severity of intersection conflicts through geometric improvements	B1 – Provide/improve left-turn channelization	Proven	Moderate	Long
C – Improve pedestrian safety with signal improvements	C1 – Install countdown timers	Tried	Low	Short
	C2 – Re-time signals to provide a leading pedestrian interval (advanced walk)	Tried	Low	Short
D – Improve driver awareness of intersections and signal control	D2 – Improve visibility of signals (overhead indications, 12-inch lenses, background shields, LEDs) and signs (mast arm mounted street names) and signs (mast arm mounted street names) at intersections	Tried	Low	Short
E – Improve driver compliance with traffic control devices	E1 – Supplement conventional enforcement of red-light running with confirmation lights; include a public information campaign to increase awareness and compliance	Tried	Low	Short
F – Improve access management near signalized intersections	F1 – Restrict access to properties using driveway closures or turn restrictions	Tried	Low	Short
	F2 – Restrict cross-median access near intersections	Tried	Low	Short
G – Improve safety through other infrastructure treatments	G1 – Restrict or eliminate parking on intersection approaches	Proven	Low	Short
<p>Notes:</p> <p>¹ Cost: Low = <\$100,000 per intersection; Moderate = \$100,000 to \$500,000 per intersection; High = >\$500,000 per intersection</p> <p>² Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years</p> <p>Source: NCHRP Report 500 Series, 2004)</p>				

TABLE 3-9
Unsignalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Improve management of access near unsignalized intersections	A1 – Implement driveway closure/relocations	Tried	Moderate	Medium
	A2 – Implement driveway turn restrictions	Tried	Low	Short
B – Reduce the frequency and severity of intersection conflicts through geometric design improvements	B1 – Provide left-turn lanes at intersections	Proven	Moderate	Medium
	B2 – Provide offset left-turn lanes at intersections	Tried	Moderate to High	Medium
	B3 – Provide offset right-turn lanes at intersections	Tried	Moderate to High	Medium
	B4 – Restrict or eliminate turning maneuvers by providing channelization or closing median openings	Tried	Low	Short
	B5 – Realign intersection approaches to reduce or eliminate intersection skew	Proven	High	Medium
	B6 – Improve pedestrian and bicycle facilities to reduce conflicts between motorists and nonmotorists	Varies	Moderate	Medium
	B7 – Use indirect left-turn treatments to minimize conflicts at divided highway intersections	Tried	Moderate	Medium
C – Improve sight distance at unsignalized intersections	C1 – Clear sight triangle on approaches and in medians by clearing grub, eliminating parking, etc.	Tried	Low	Short
D – Improve driver awareness of intersections as viewed from the intersection approach	D1 – Improve visibility of intersections by providing enhanced signing, delineation or pavement markings/messages (stop bar, larger regulatory signs, LED stop signs, etc.)	Tried	Low	Short
	D2 – Improve visibility of intersections by providing appropriate street lighting	Proven	Low to Moderate	Medium
	D3 – Install larger regulatory and warning signs at intersections, including the use of dynamic warning signs at appropriate intersections	Tried	Low	Short

TABLE 3-9
Unsignalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
	D4 – Call attention to the intersection by installing rumble strips or splitter islands on intersection approaches	Tried	Low to Moderate	Medium
E – Appropriate intersection traffic control to minimize crash frequency and severity	E1 – Construct roundabouts at appropriate locations	Proven	High	Long
F – Reduce operating speeds on specific intersection approaches	F1 – Install dynamic speed feedback signs	Proven	Low	Short
<p>Notes:</p> <p>¹ Cost: Low = <\$50,000 per intersection; Moderate = \$50,000 to \$500,000 per intersection; High = >\$500,000 per intersection</p> <p>² Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years</p> <p>Source: NCHRP <i>Report 500</i> Series, 2003</p>				

3.3 Safety Strategies Workshop

A Safety Planning Workshop was held with the five northeast counties in the City of Devils Lake on June 3, 2013. Two additional workshops were held in Ward and Burleigh counties as part of the LRSP Phase I analysis. The primary focus of the safety workshop was to discuss and prioritize the safety strategies.

The basic workshop structure included introductions and an overview of the current NDDOT safety program. This was followed by local speakers, Captain Kyle Kirchmeier (North Dakota Highway Patrol) and Sharon Lipsh (Walsh County Highway Supervisor), who shared information on local safety initiatives and programs. The morning was concluded with a review of the latest crash data on the local roadway system. In the afternoon, the workshop participants separated into two groups to discuss potential safety strategies and begin the process of prioritizing the strategies. One group reviewed and discussed driver-behavior strategies and the other reviewed and discussed roadway infrastructure strategies. The final agenda item was a voting exercise where each participant voted for their preferred strategies to focus efforts on in the future local roadway program in their regions.

Workshop participants included county and city representatives, county commissioners, enforcement representatives, and NDDOT staff in order to include a variety of backgrounds and experiences to enable valuable interaction and discussions during the workshop.

3.4 Prioritizing Safety Strategies

Through the group (infrastructure and driver behavior) discussion and voting exercise, the top safety strategies for the northeast region are:

- Behavioral strategies
 - Conduct regular high-visibility driving-under-the-influence (DUI) enforcement saturations
 - Conduct high-visibility targeted enforcement of speeding and aggressive driving
 - Conduct high-visibility targeted enforcement to maximize seat belt use
 - Encourage driver education providers to require parent education component
- Infrastructure strategies
 - Rumble strips and enhance edge line (modified shoulder rumble strips, 6-inch edge line)
 - Design safer slopes and ditches to prevent rollovers if a vehicle leaves the roadway
 - Intersection lighting
 - Provide enhanced shoulders, delineation, or pavement markings for sharp horizontal curves

Safety projects that are developed as part of this LRSP are considered eligible for funding through the state's Highway Safety Improvement Program (HSIP). The managers of this program have identified implementation cost and effectiveness as priorities in their evaluation process of selecting projects for funding. Low-cost projects allow the limited funding to support a wider deployment and the use of proven-effective strategies provides the highest level of confidence that a given project will result in an overall crash reduction.

The ability of the selected strategies to reduce crashes is based on information in FHWA's CMF [Crash Modification Factors] Clearinghouse. Table 3-10 provides a summary of the crash reduction factors that were found in the CMF Clearinghouse for safety strategies considered and/or suggested for the northeast region, along with an estimated unit cost for each strategy. Most factors reported are based on research that was assigned with higher-quality ratings.

TABLE 3-10
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor ^a	Typical Installation Costs
Impaired Driving		
Conduct regular high-visibility DUI enforcement saturations	3%	Up to \$50 per hour of officer overtime
Speed and Aggressive Driving		
Conduct high-visibility targeted enforcement of speeding and aggressive driving	3%	Up to \$50 per hour of officer overtime
Seat Belt Use		
Conduct highly publicized enforcement campaigns to maximize restraint use. Specifically, nighttime seat belt enforcement saturation	3%	Up to \$50 per hour of officer overtime
Young Drivers		
Publicize and conduct a high-visibility enforcement of graduated drivers license (GDL) restrictions, cell and texting laws, underage drinking and driving, and seat belt laws	3%	Depends on duration
Encourage driver education providers to require parent education component	2%	\$1,500 per school district
Brief interventions by health care providers following a crash regarding driving risks and consequences	N/A	Low to Moderate
Rural Segments		
4-inch latex edge line		\$400 per mile
6-inch latex edge line	10% to 45% all rural serious crashes	\$650 per mile
Shoulder or edge line rumble strips	20% run off road crashes	\$3,000 per mile [shoulder] \$3,500 per mile [edge]
Ground in wet-reflective markings		\$8,500 per mile
Centerline rumble strips	40% head-on/sideswipe-crashes	\$3,000 per mile
6-inch centerline		\$650 per mile
Rural Curves		
Chevrons	20% to 30%	\$3,300 per curve
Arrow board only		\$500 per curve
Advance warning sign and advisory speed plaque		\$800 per curve

TABLE 3-10
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor ^a	Typical Installation Costs
2-foot paved shoulder and shoulder rumble strips	20% to 30% run-off-the-road crashes	\$37,000 per mile +\$3,000 per mile
Rural Intersections		
Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	\$1,000,000 per intersection
Directional median (RCI or J-Turn)	17% all crashes/ 100% angle crashes	\$750,000 per intersection
Mainline dynamic warning sign	50% all crashes/ 75% severe right-angle crashes	\$50,000 per intersection
Close median		\$25,000 per intersection
Intersection lighting	25% to 40% nighttime crashes	\$6,000 per streetlight
Upgrade signs and pavement markings	40% upgrade of all signs and pavement markings/ 15% for STOP AHEAD pavement marking	\$1,850 per approach ^b
Clear sight triangle	37% serious injury crashes	\$2,450 per intersection ^d
Urban		
Conversions (three-lane/five-lane)	30% to 50%	\$17,000 per mile [three-lane] \$22,000 per mile [five-lane] +\$25,000 per signalized intersection for updates (for example, loop and signal head placement)
Access management	5% to 31%	\$300,000 per mile ^e
Signal – confirmation lights	25% to 84% reduction in violations	\$1,000 per two approaches
Pedestrian/bicycle – advanced walk	Up to 60% pedestrian/vehicle crashes	\$0 per intersection
Pedestrian/bicycle – countdown timers	25% vehicle/pedestrian crashes	\$10,000 per intersection
Pedestrian/bicycle – curb extensions	Increase in vehicles yielding to pedestrians	\$15,000 per corner
Pedestrian/bicycle – median refuge island	46% in vehicle/pedestrian crashes	\$10,000 per approach
<p>Notes:</p> <p>^a Crash reduction factors based on review of CMF Clearinghouse and other published research</p> <p>^b Includes \$350 per STOP sign, \$350 per junction sign assembly, \$450 per STOP AHEAD sign, \$450 per STOP AHEAD pavement marking message, and \$250 per stop bar</p> <p>^c Reduction based on increasing sight distance triangle</p> <p>^d Inclusive of sign upgrades identified and materials and labor for clearing of sight triangle.</p> <p>^e For management of unsignalized intersection movements within a corridor that has a divided median. Typical project may include minor street diverters, signed turn restrictions, and median closings.</p> <p>N/A = not applicable</p>		



4.0 Northeast Infrastructure Safety Projects

4.1 Northeast Region Proactive Project Decision Process

The primary objectives of the LRSP effort are to identify low-cost, safety-related infrastructure projects focused on each county's documented safety emphasis areas and target crash types. These emphasis areas account for the greatest number of severe crashes occurring on the local road system. Mitigating the factors that contribute to these crashes will assist each county in reducing severe crashes on the local road system.

Projects were developed that include identifying a specific improvement at a specific location based on risk factors described in Chapter 2 and the high-priority safety strategies described in Chapter 3. Improvement strategies are consistent with the NDDOT's SHSP with a focus on proven effectiveness at reducing the target type of crash and low cost. Proven-effective strategies give safety program managers the highest level of confidence that the deployment will result in a reduction of crashes. Low-cost strategies allow improvements to be widely deployed across a system to address the low density of crashes and are less expensive than complete reconstruction of high-risk locations. Project development and mitigation focused on the following improvements:

- Rural
 - Lane-departure crashes along roadway segments and in curves
 - Intersection-related crashes
- Urban
 - Rear-end and head-on crashes on roadway segments
 - Angle crashes and pedestrian and bicycle crashes at intersections

For consistency across the northeast region, project decision trees were created so that locations with similar characteristics across the region received the same suggested mitigation treatment. Projects were chosen based on the identification of at-risk locations and the availability of proven strategies for crash reduction. This resulted in a systemic focus on rural paved roadway segments, horizontal paved curves, and rural intersections. In cities with populations over 5,000, the focus was on arterial and collector roadway segments and intersections along these segments. Projects were originally suggested based on the technical analysis and then revised in accordance with input from the local agencies and NDDOT.

High-priority rural roadway segment projects focused on addressing the most common type of severe segment-related crash—a single-vehicle, lane-departure crash—by implementing road edge improvements to alert drivers when they are drifting too far to the edge of the road (Figure 4-1).

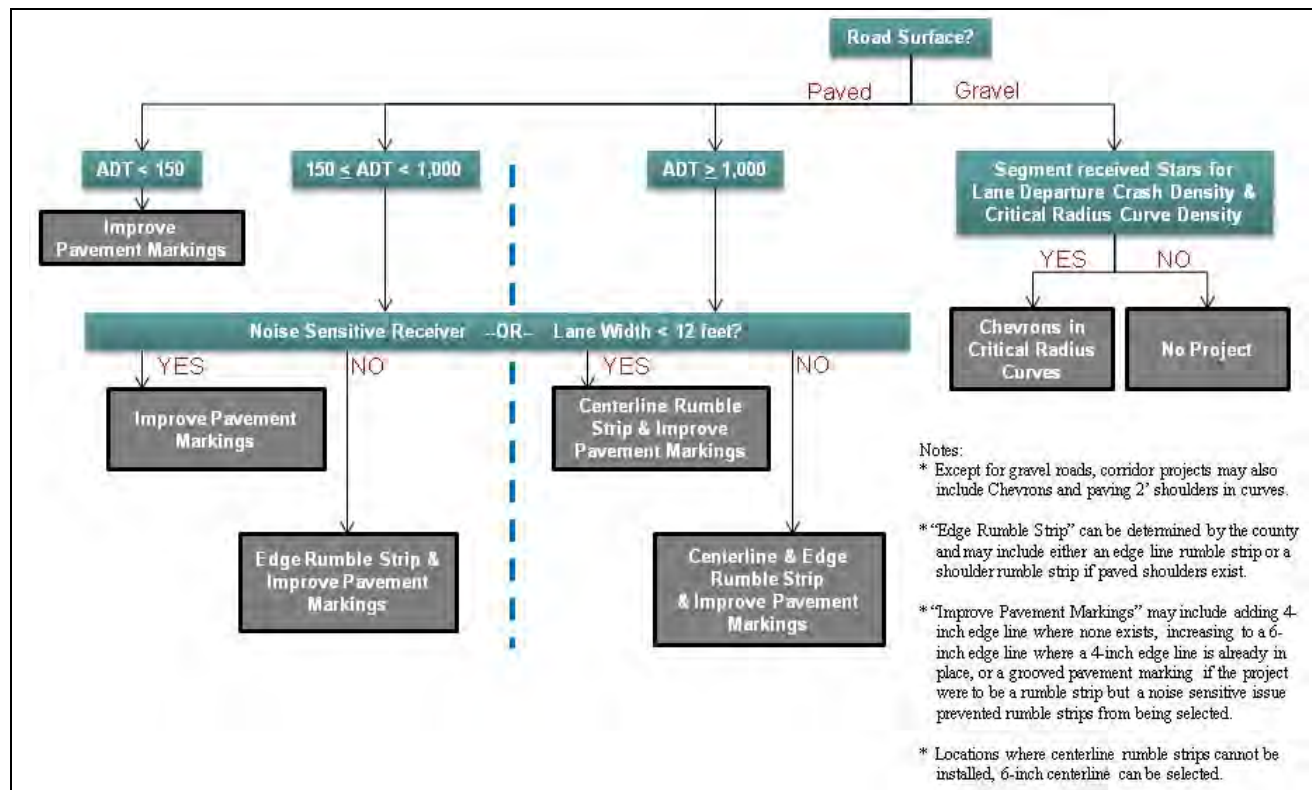


FIGURE 4-1
High-Priority Rural Roadway Segment Project Decision Tree

High-priority rural curve projects focused on enhancing the curve delineation to improve driver's ability to successfully navigate the curves (Figure 4-2). As shown in the figure, a curve is eligible for a safety improvement project in three ways.

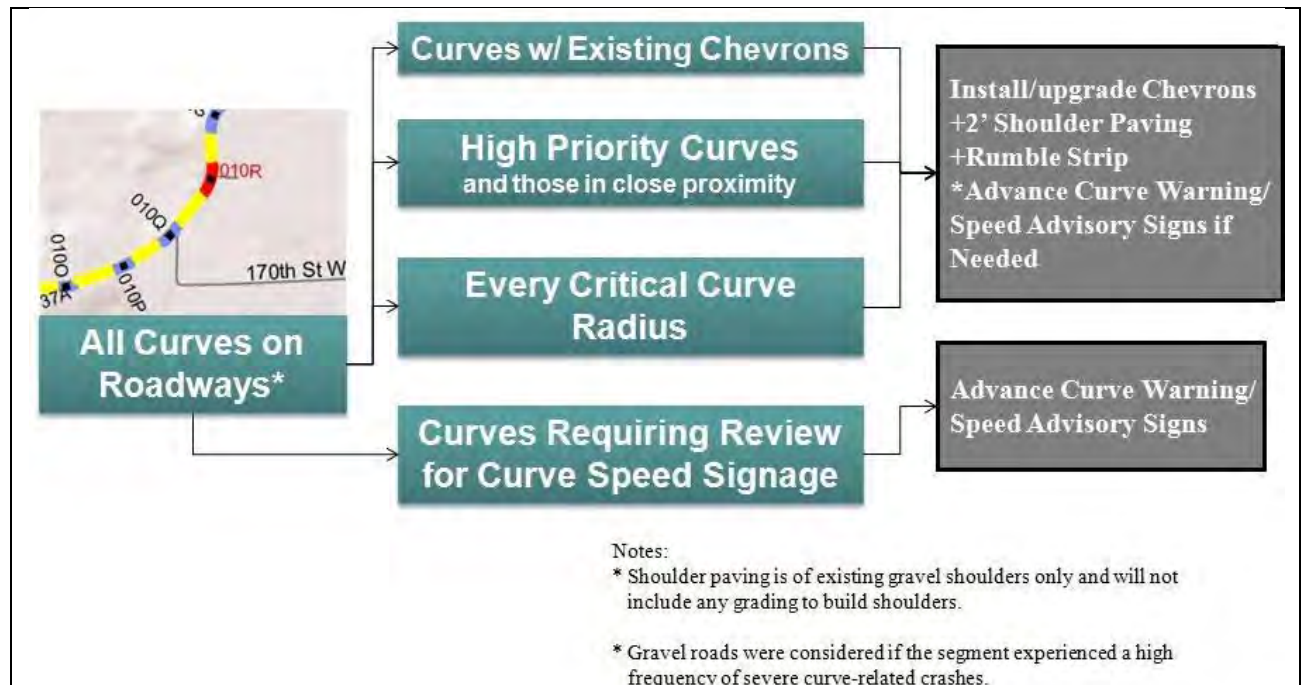


FIGURE 4-2
High-Priority Rural Curve Project Decision Tree

High-priority rural intersection projects (Figure 4-3) focused on addressing the most common type of severe intersection crash – a right-angle collision – by making the intersection more visible to drivers and by reducing the number of intersection conflicts. Examples of suggested projects are shown in Figure 4-4.

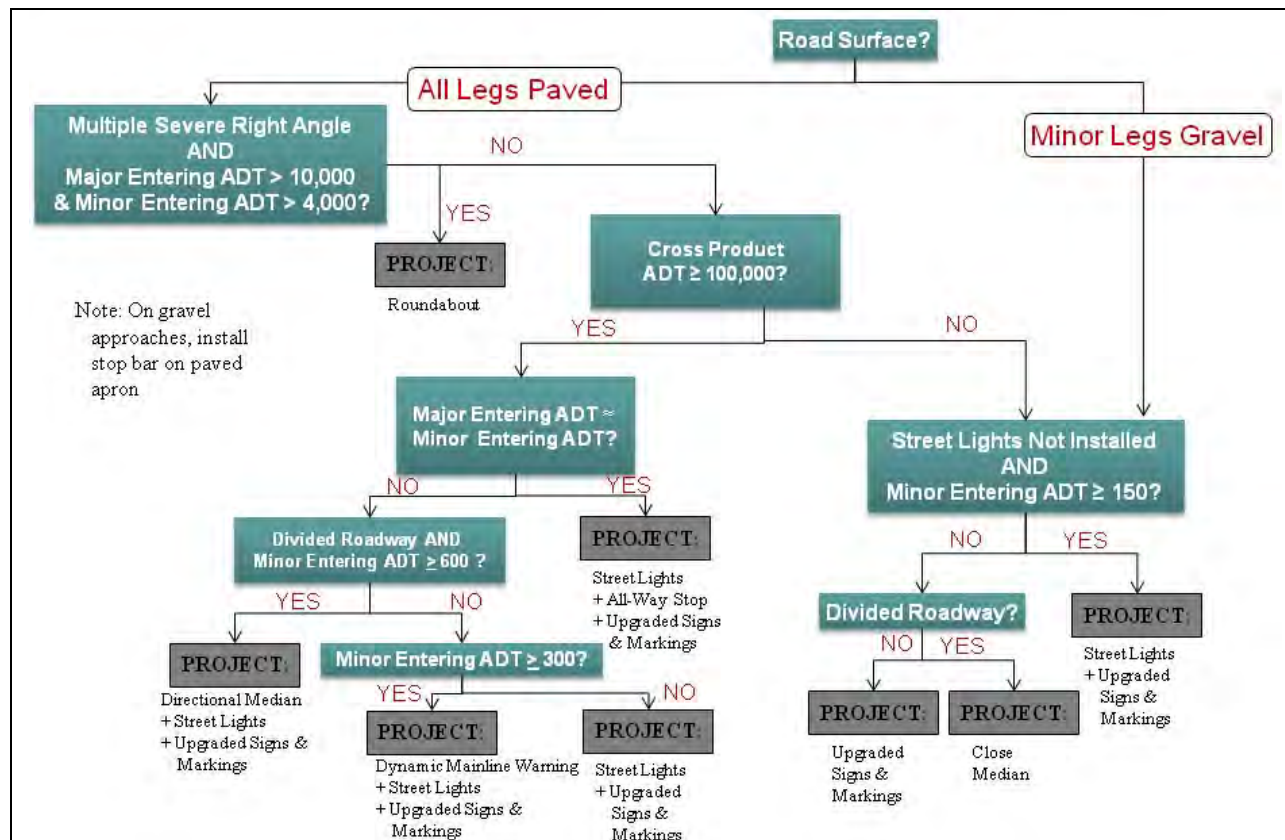


FIGURE 4-3
High-Priority Rural Intersection Project Decision Tree

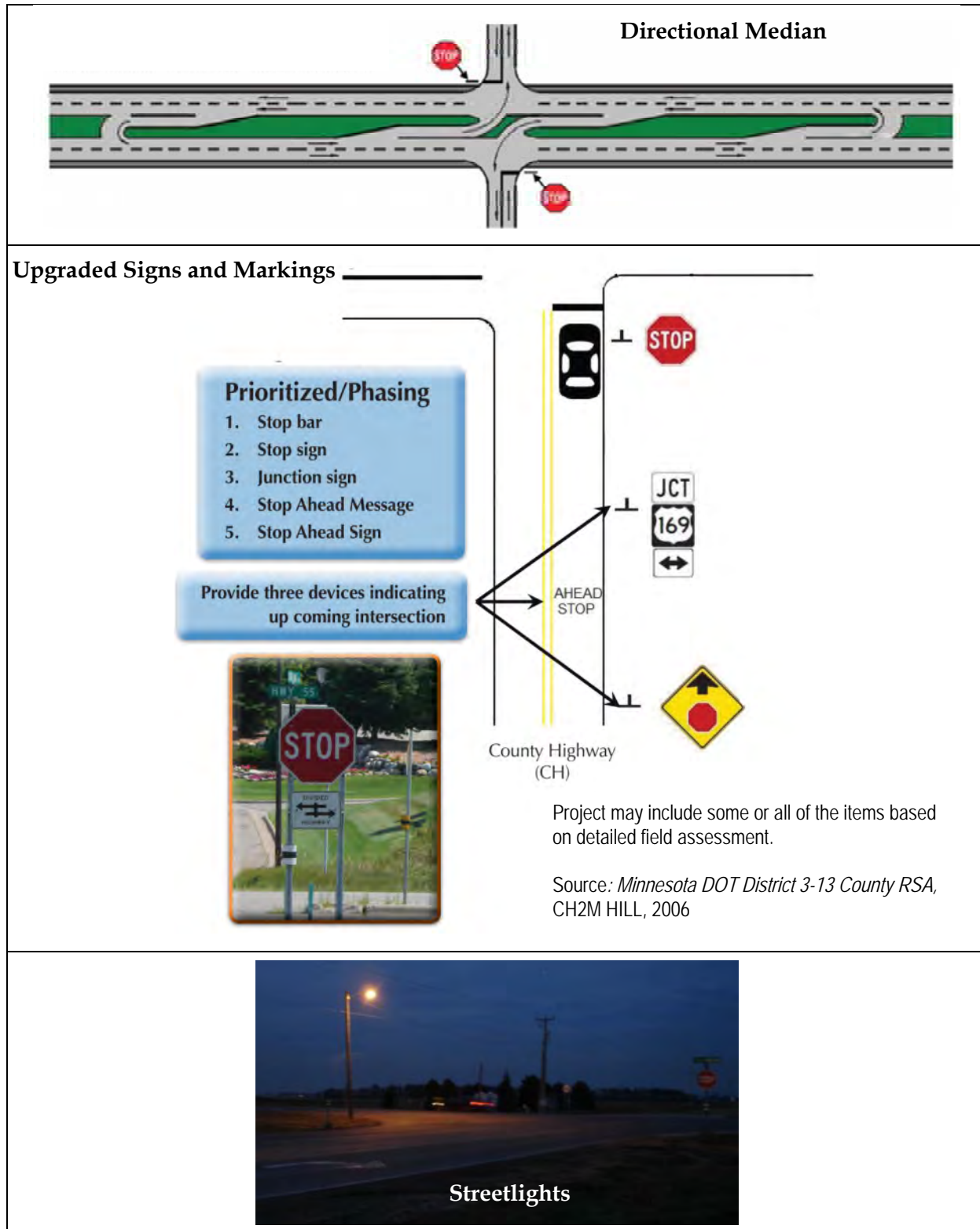


FIGURE 4-4
Intersection Safety Strategies Considered for Deployment

High-priority urban roadway segment projects focused on reducing rear-end and head-on crashes by creating buffer space in the middle of the roadway. This buffer space would be created by converting to a three-lane or five-lane roadway and by better managing access along divided arterials (Figure 4-5).

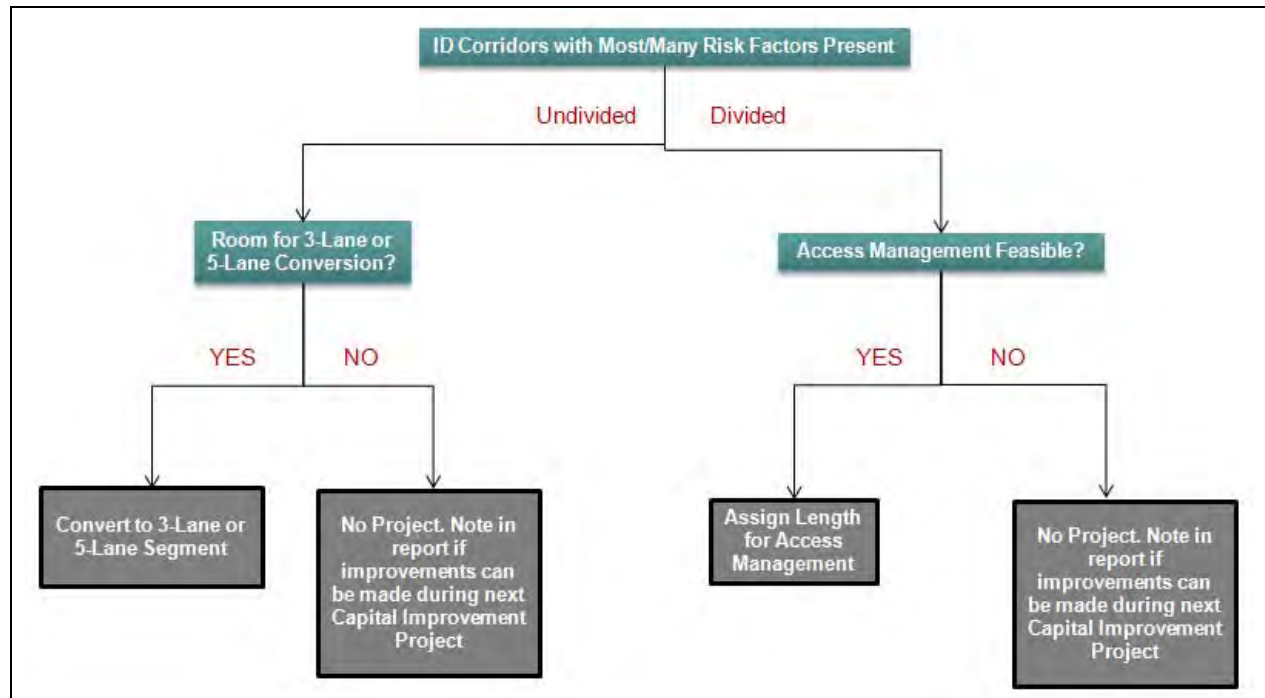


FIGURE 4-5
High-Priority Urban Roadway Segment (Turning) Project Decision Process

High-priority urban right-angle intersection projects focused on reducing right-angle crashes by reducing red-light running and managing access to reduce the number of conflict points along a corridor, particularly at signalized intersections (Figure 4-6).

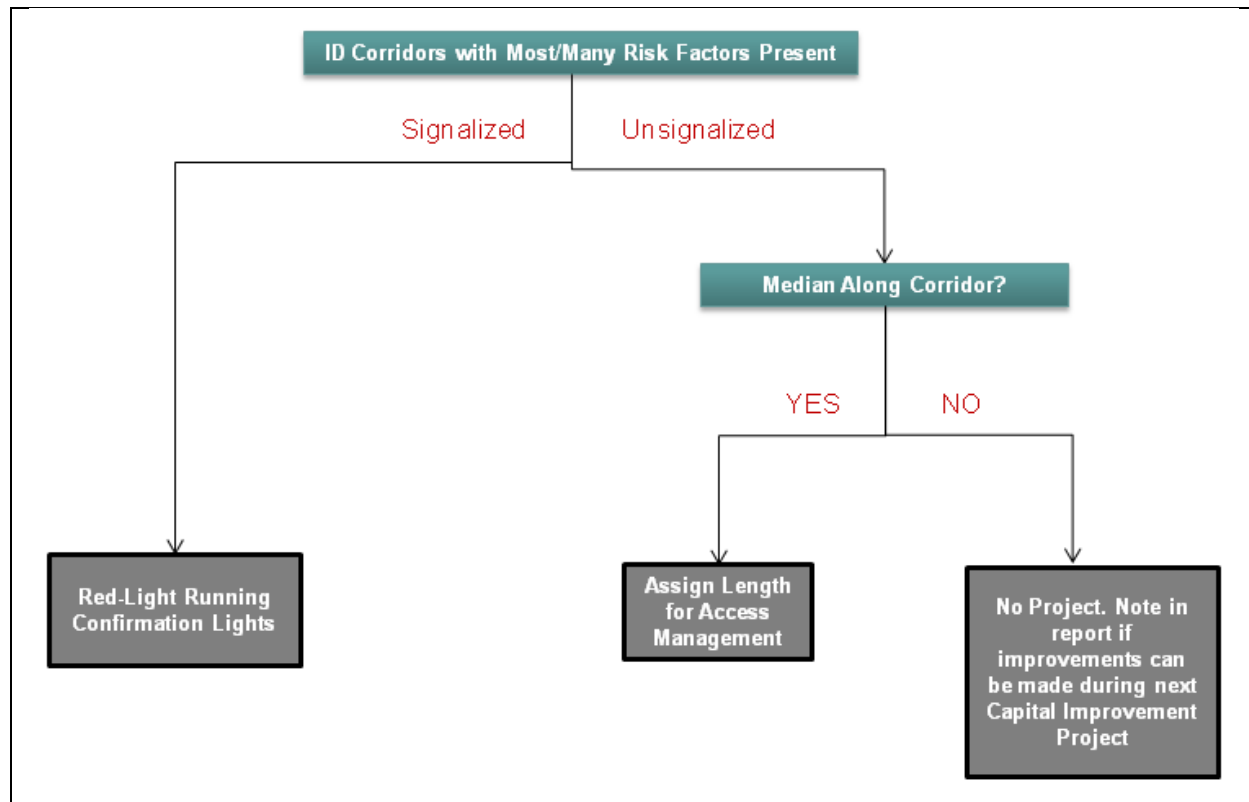


FIGURE 4-6
High-Priority Urban Right-Angle Intersection (Signalized) Project Decision Process

High-priority urban pedestrian and bicycle intersection projects focused on reducing pedestrian and bicycle crashes by providing shorter crossing distances or median refuge islands, as well as advanced walk intervals and countdown timers at signalized intersections (Figure 4-7).

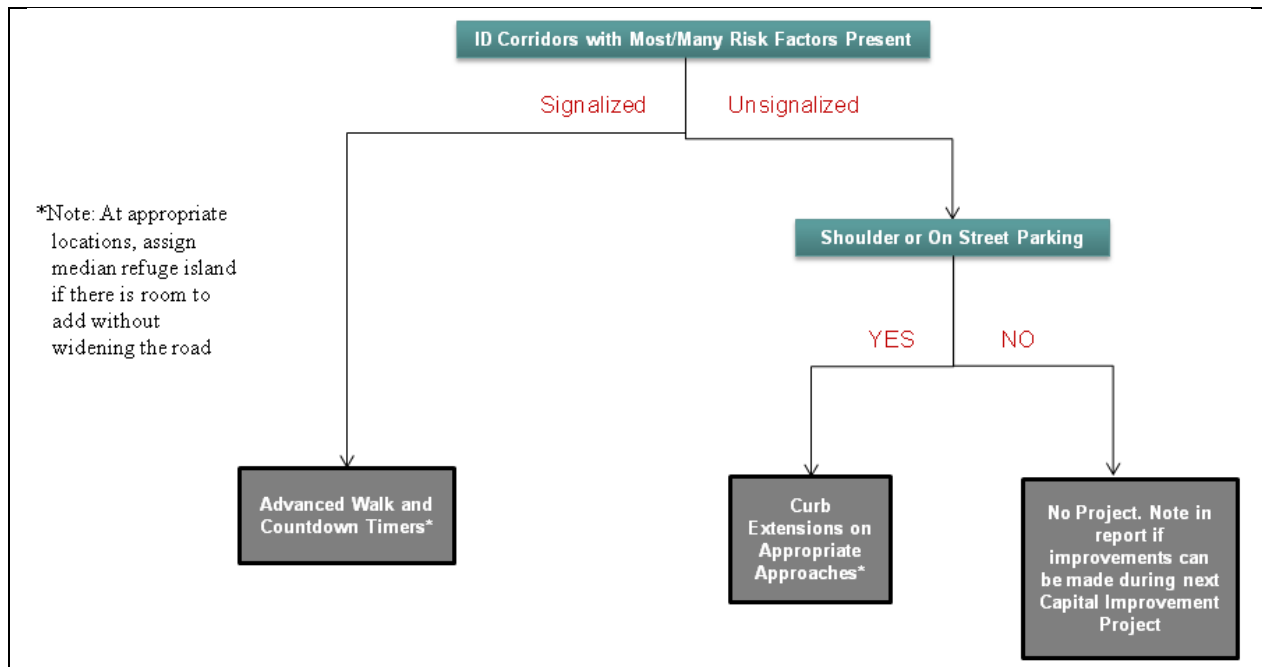


FIGURE 4-7
High-Priority Urban Pedestrian and Bicyclist Intersection Project Decision Process

Project forms were completed for each high-priority intersection, curve, and roadway segment, including a description of the location, brief crash history, ranking factors, a picture from the LRSP process of the location (if needed), and the identified safety strategy. These forms were formatted so they could be submitted directly through the HSIP process, but may require supplemental information for the evaluation and scoring process.

The suggested low-cost safety projects for the counties and the City of Devils Lake are described in the following sections. The costs assigned to each project are planning level estimates and do not include right-of-way or some other supplemental costs such as signal revisions or replacement for three-lane conversion projects. Because of funding limitations, all potential projects would not be completed in 1 year. The actual schedule for implementing individual projects will necessitate securing funding from the state's HSIP. The safety planning process followed for the northeast region is consistent with the North Dakota SHSP. In addition, several of the high-priority safety strategies are among those recommended for the state road system in the state's Strategic Plan.

It is not expected or required that each county pursue safety projects in the suggested ranking order. The ranking suggests general priorities, given that actual project development decisions will be made by each county staff based on economic, social, and political issues and in coordination with other pavement and reconstruction projects that are part of the county's Capital Improvement Program.

Many project details are still undetermined, including general project termini. Each county will determine specific project details (such as termini and exceptions) as decisions regarding implementation of specific projects are made. These decisions may require that the county coordinate with various municipal departments, the public, and other county transportation departments.

The total cost of projects suggested for the northeast region is \$3,974,372. A cost breakout by project type and county/city is provided in Table 4-1.

TABLE 4-1
Northeast Region Total Safety Project Costs

Rural Projects	Roadway Segments	Intersections	Curves	Total
Cavalier County	\$28,145	\$55,300	\$43,500	\$126,945
Nelson County	\$31,440	\$38,100	\$16,900	\$86,440
Pembina County	\$83,525	\$261,800	\$91,237	\$436,562
Ramsey County	\$179,940	\$1,005,750	\$108,830	\$1,294,520
Walsh County	\$31,170	\$305,500	\$73,100	\$409,770
Urban Projects	Roadway Segments	Intersections – Right-Angle	Intersections – Pedestrians and Bicyclists	Total
Devils Lake	\$221,135	\$604,000	\$795,000	\$1,620,135

Cavalier County

The total project cost suggested for Cavalier County is \$126,945. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-2. High-priority locations that received a project are shown in Figure 4-8. These locations are described in further detail in Appendix 4A along with priority rankings and suggested project sheets.

TABLE 4-2
Cavalier County Project Costs

Project Type	Cost
Intersections	\$55,300
Roadway Segments	\$28,145
Curves	\$43,500
Total	\$126,945

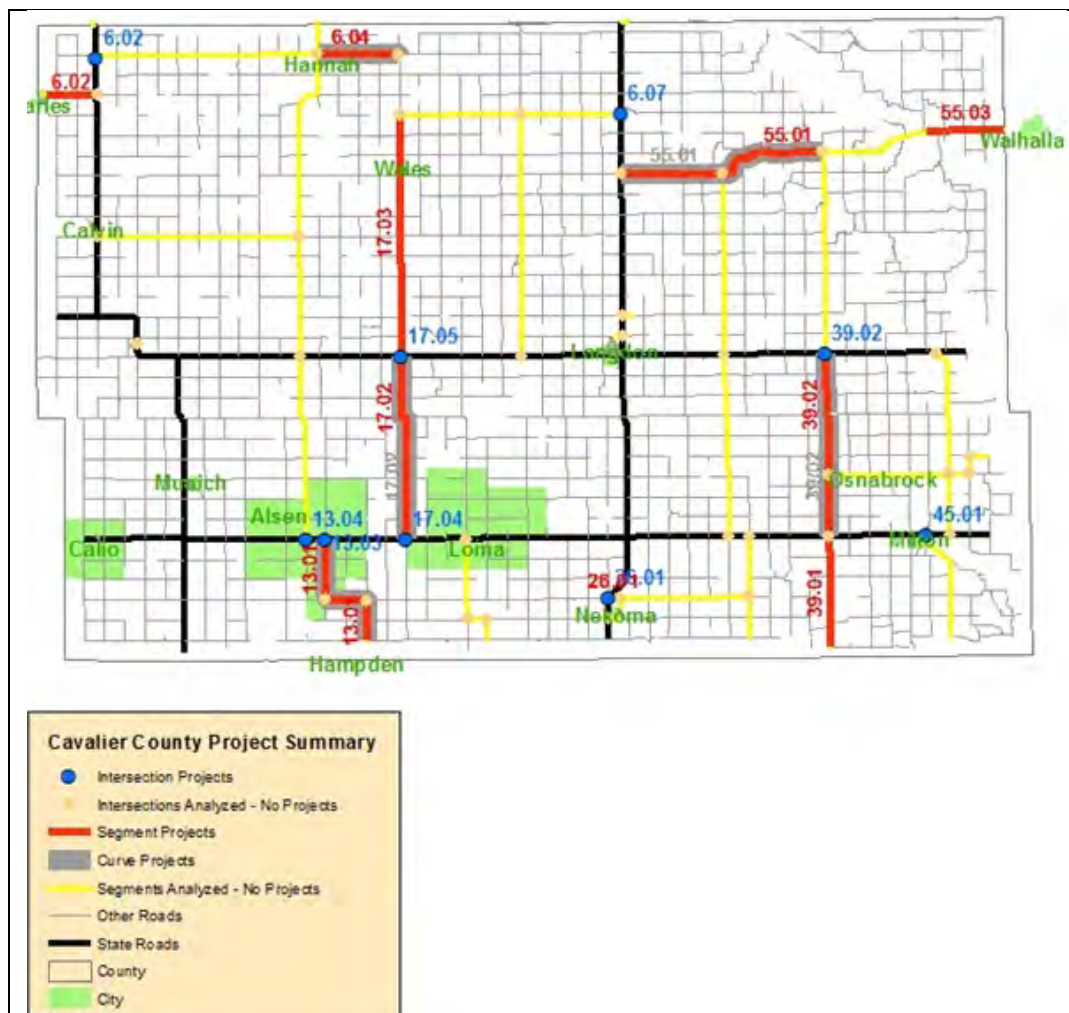


FIGURE 4-8
Cavalier County Projects Location Map

Nelson County

The total project cost suggested for Nelson County is \$86,440. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-3. High-priority locations that received a project are shown in Figure 4-9. These locations are described in further detail in Appendix 4B along with priority rankings and suggested project sheets.

TABLE 4-3
Nelson County Project Costs

Project Type	Cost
Intersections	\$38,100
Roadway Segments	\$31,440
Curves	\$16,900
Total	\$86,440

Two intersections are suggested for geometric review during the next capital improvement project (Table 4-4). These locations are where two gravel roads intersect and where no low-cost treatment would greatly reduce the risk other than a realignment of the roadway, which is not cost effective for the LRSP or HSIP process.

TABLE 4-4
Nelson County Capital Improvement Project Consideration

Intersection ID	Intersection Description
18.04	22½ Street (Nelson 18) and 23½ Street (Nelson 18)
18.05	22½ Street (Nelson 18) and 110th Ave (Nelson 18)

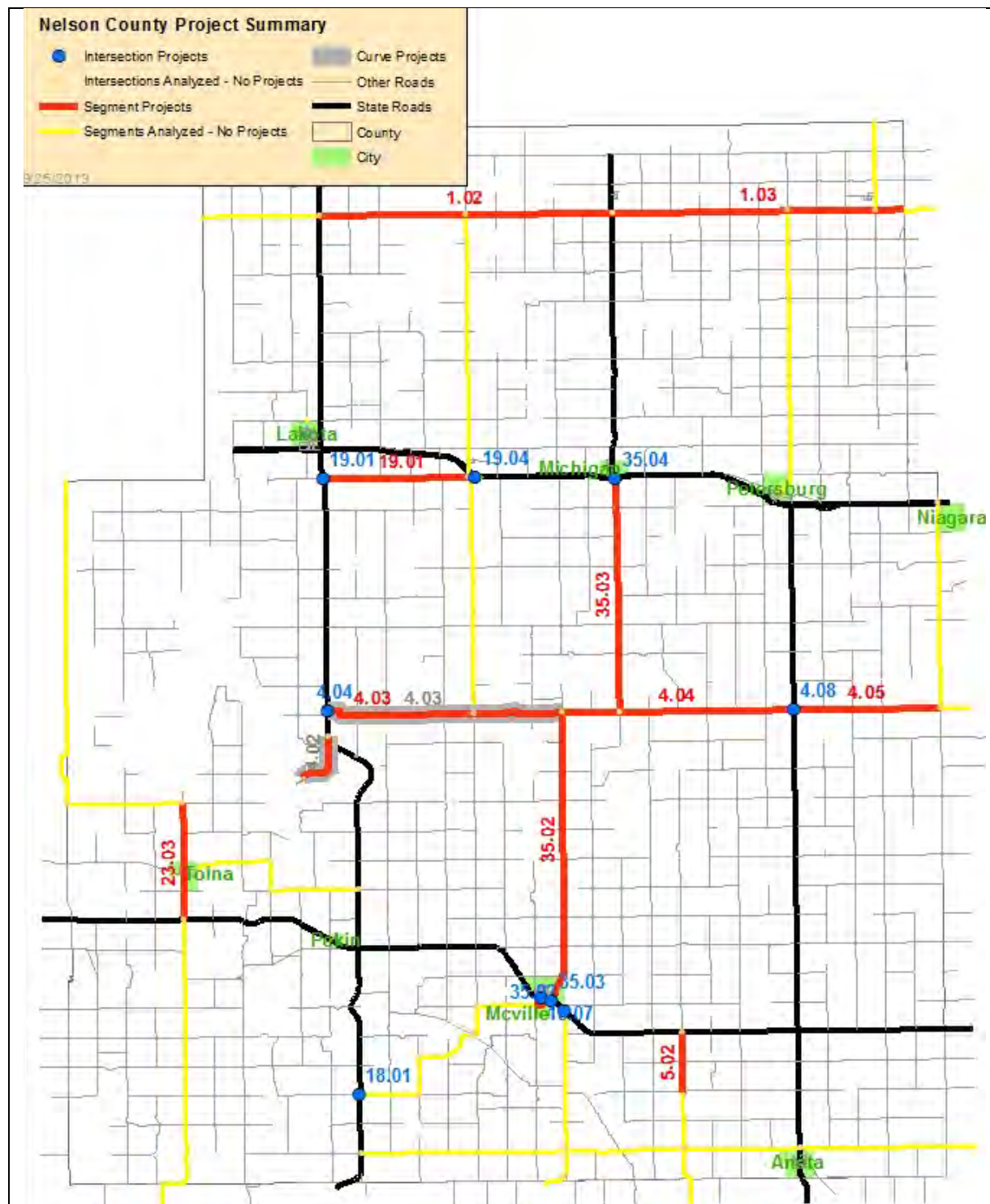


FIGURE 4-9
Nelson County Projects Location Map

The total project cost suggested for Pembina County is \$436,562. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-5. High-priority locations that received a project are shown in Figure 4-10. These locations are described in further detail in Appendix 4C along with priority rankings and suggested project sheets.

Project Type	Cost
Intersections	\$261,800
Roadway Segments	\$83,525
Curves	\$91,237
Total	\$436,562



Ramsey County

The total project cost suggested for Ramsey County is \$1,294,520. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-6. High-priority locations that received a project are shown in Figure 4-11. These locations are described in further detail in Appendix 4D along with priority rankings and suggested project sheets.

TABLE 4-6
Ramsey County Project Costs

Project Type	Cost
Intersections	\$1,005,750
Roadway Segments	\$179,940
Curves	\$108,830
Total	\$1,294,520

One intersection is suggested for geometric review during the next capital improvement project (Table 4-7). These locations are where two gravel roads intersect and where no low-cost treatment would greatly reduce the risk other than a realignment of the roadway, which is not cost effective for the LRSP or HSIP process.

TABLE 4-7
Ramsey County Capital Improvement Project Consideration

Intersection ID	Intersection Description
500.02	100th Avenue and 100th Avenue

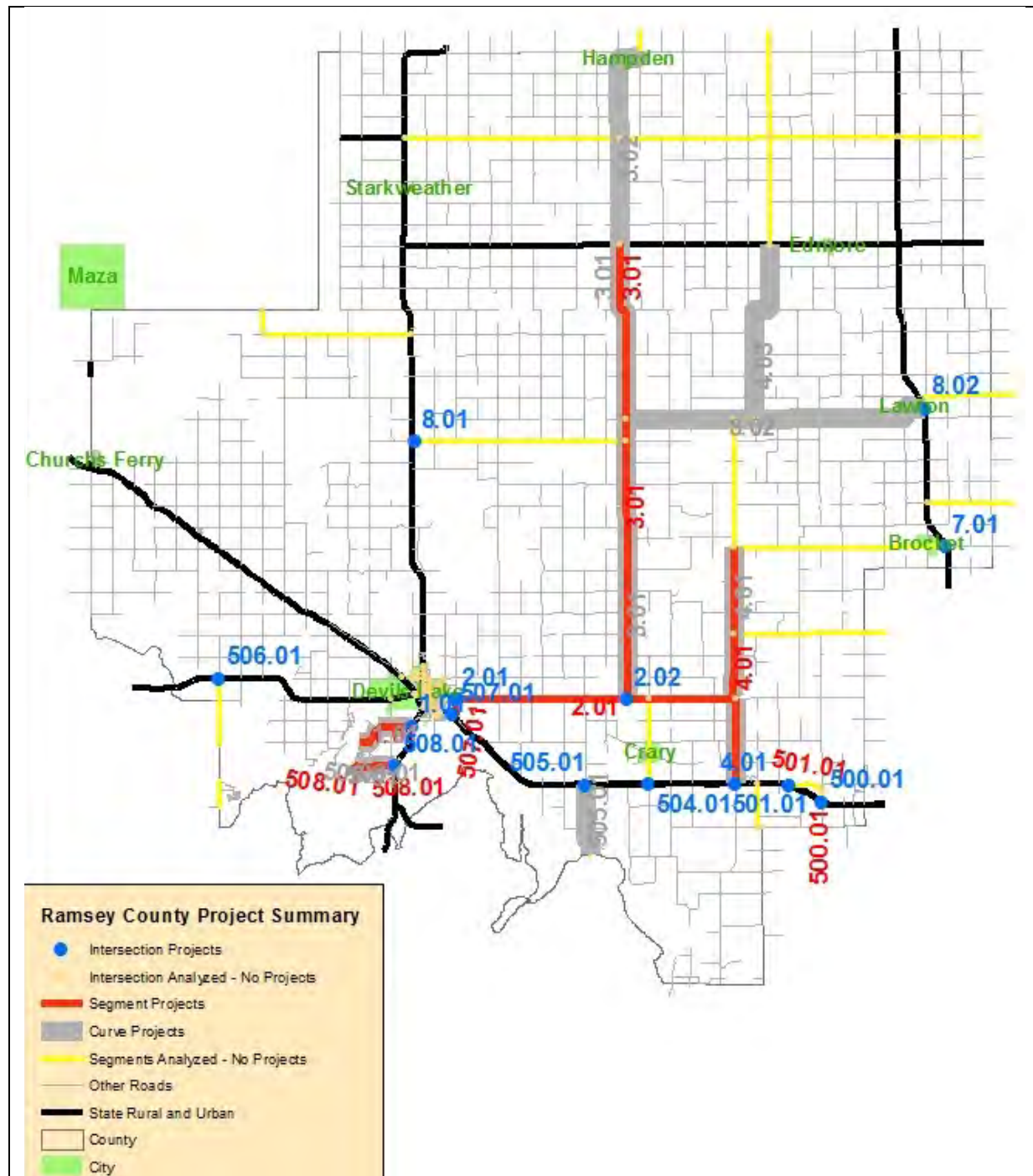


FIGURE 4-11
Ramsey County Projects Location Map

Walsh County

The total project cost suggested for Walsh County is \$409,770. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-8. High-priority locations that received a project are shown in Figure 4-12. These locations are described in further detail in Appendix 4E along with priority rankings and suggested project sheets.

TABLE 4-8
Walsh County Project Costs

Project Type	Cost
Intersections	\$305,500
Roadway Segments	\$31,170
Curves	\$73,100
Total	\$409,770

One intersection is suggested for geometric review during the next capital improvement project (Table 4-9). These locations are where two gravel roads intersect and where no low-cost treatment would greatly reduce the risk other than a realignment of the roadway, which is not cost effective for the LRSP or HSIP process.

TABLE 4-9
Walsh County Capital Improvement Project Consideration

Intersection ID	Intersection Description
8.02	67th Street NE and 142nd Avenue NE (Walsh 8)

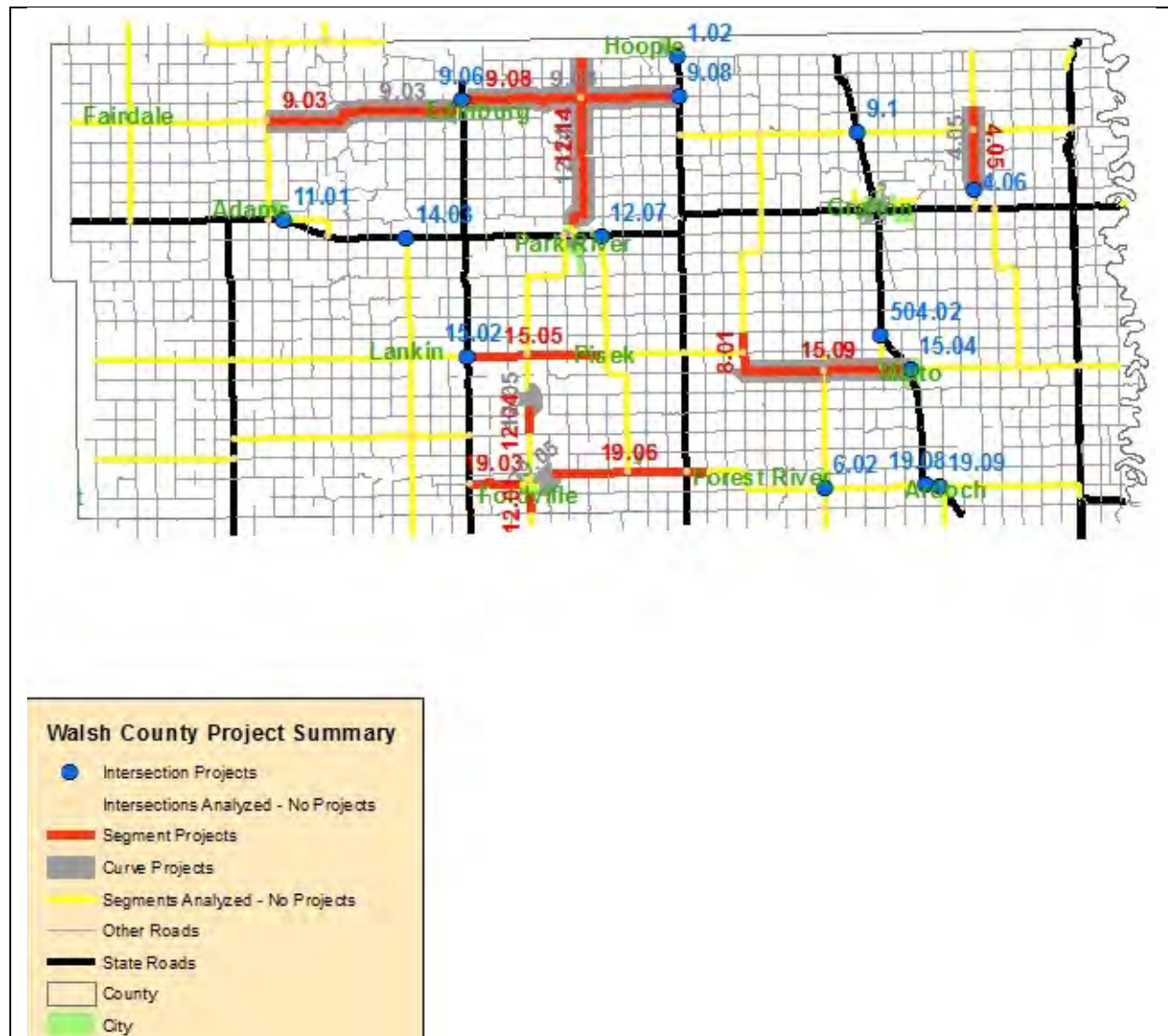


FIGURE 4-12
Walsh County Projects Location Map

City of Devils Lake

The total project cost suggested for the City of Devils Lake is \$1,620,135. The project cost breakout for roadway segment, right-angle intersection, and pedestrian/bicyclist intersection projects are listed in Table 4-10. High-priority locations that received a project are shown in Figure 4-13. These locations are described in further detail in Appendix 4F along with priority rankings and suggested project sheets.

TABLE 4-10
City of Devils Lake Project Costs

Project Type	Cost
Roadway Segments	\$221,135
Right-Angle Intersections	\$604,000
Pedestrian and Bicyclist Intersections	\$795,000
Total	\$1,620,135

Eleven roadway segments were identified as high-priority locations. However, the roadway segments are already three-lane sections, therefore no projects were suggested since three-lane corridors reduce rear-end and head-on crashes (Table 4-11).

TABLE 4-11
City of Devils Lake Urban Roadway Segment Locations with Existing Treatments

Segment ID	Local Name	Segment Start	Segment End	Treatment In Place
805.02	6th Avenue NE	1st Street NE	7th Street NE	Existing three-lane
832.03	US 2	College Drive	6th Avenue NE	Access management was part of construction process
816.01	6th Street NE	College Drive North	6th Avenue NE	Existing three-lane
821.01	5th Avenue NE	Railroad Avenue	City Limit	Existing angle parking with curb extensions
832.02	US 2	Highway 19 West	College Drive	Access management was part of construction process
811.01	1st Street NE/ Railroad Avenue/ 2nd Avenue NE	8th Avenue NE	6th Street NE	Existing parallel parking with curb extensions
820.01	4th Avenue NE	Railroad Avenue	6th Street NE	Existing angle parking with curb extensions
815.01	5th Street NE	College Drive North	6th Avenue NE	Existing angle parking with curb extensions
814.01	4th Street NE	2nd Avenue NE	12th Avenue NE	Existing angle parking with curb extensions and residential area
834.04	College Drive	14th Street NE	City Limit	Existing three-lane and rural area
801.03	Frontage Rd	3rd Avenue SE	7th Ave SE	Existing too narrow

Two intersection corridors were identified as high-priority pedestrian and bicycle intersections. However, pedestrian treatments similar to those suggested in other locations are already in place, so no projects were suggested in these locations (Table 4-12).

TABLE 4-12
City of Devils Lake Urban Pedestrian/Bicycle Intersection Locations with Existing Treatments

Intersection Corridor (Segment) ID	Local Name	Segment Start	Segment End	Treatment in Place
815.01	5th Street NE	2nd Avenue NE	5th Avenue NE	Pedestrian treatments already in place
832.03	US 2	College Drive	12th Avenue SE	Access management was part of construction process

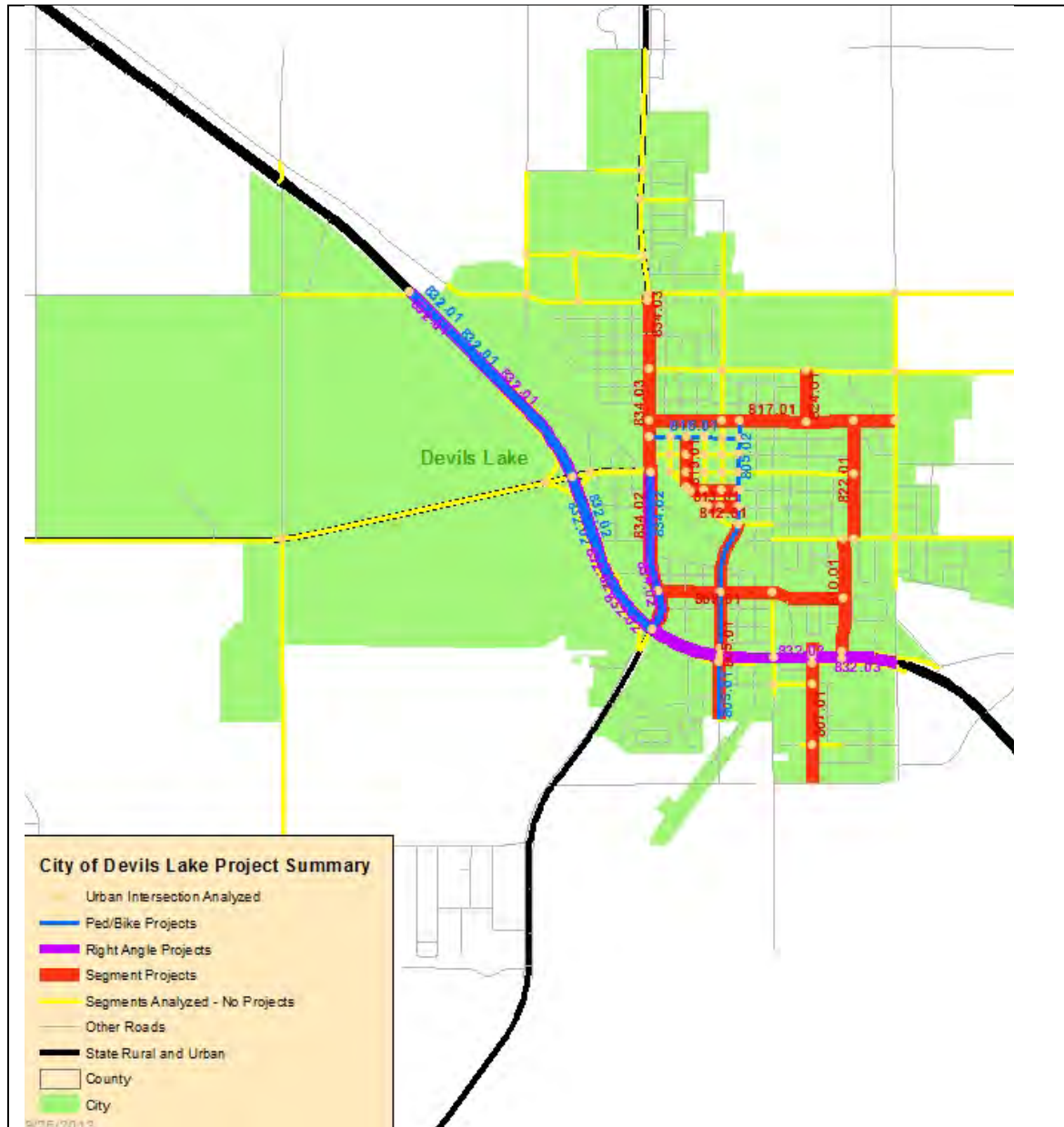


FIGURE 4-13
City of Devils Lake Projects Location Map

23 USC 409
NDDOT Reserves All Objections

APPENDIX 4A
Cavalier County

Cavalier County
Rural Segment Projects

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	4" Edge Line	6" Edge Lines	Project Cost (\$)
1	39.02	Cavalier 39	ND 66	ND 5	9.1	★ ★ ★	0.0	9.1	\$5,915.00
2	17.03	Cavalier 17	ND 5	Cavalier 6	12.0	★ ★ ★	12.0	0.0	\$4,800.00
3	6.04	Cavalier 6	Cavalier 13/Hanna CL	Cavalier 17	3.9	★ ★ ★	3.9	0.0	\$1,560.00
4	55.03	Cavalier 55	104th Street	County Limit	3.8	★ ★	3.8	0.0	\$1,520.00
5	6.02	Cavalier 6	M Street / Sarles	ND 20	2.7	★ ★	2.7	0.0	\$1,080.00
6	39.01	Cavalier 39	79th Street	ND 66	5.5	★ ★	5.5	0.0	\$2,200.00
7	13.01	Cavalier 13	County Line	ND 66	7.0	★ ★	7.0	0.0	\$2,800.00
8	17.02	Cavalier 17	ND 66/Loma	ND 5	9.1	★ ★	9.1	0.0	\$3,640.00
9	26.01	Cavalier 26	ND 1	Cavalier 502.01/Road to Nekoma	0.6	★ ★	0.0	0.6	\$390.00
10	55.01	Cavalier 55	ND 1	Cavalier 39	10.6	★ ★	10.6	0.0	\$4,240.00
							54.6	9.7	\$28,145.00

**Cavalier County
Rural Segment Listing**

*High Priority Segments Project Sheet Page Number

Project Sheet Page*	Corridor	Route	Start	End	Length (miles)	VMT	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assesment
5	6.02	Cavalier 6	M Street / Sarles	ND 20	2.7	972,296	0	198	0.00	5.9	0.0	2
3	6.04	Cavalier 6	Cavalier 13/Hanna CL	Cavalier 17	3.9	856,718	0	120	0.00	9.7	0.3	2
7	13.01	Cavalier 13	County Line	ND 66	7.0	888,621	0	70	0.00	7.2	0.3	2
8	17.02	Cavalier 17	ND 66/Loma	ND 5	9.1	892,477	0	53	0.00	6.7	0.2	2
2	17.03	Cavalier 17	ND 5	Cavalier 6	12.0	5,315,339	2	243	0.03	6.7	0.0	2
9	26.01	Cavalier 26	ND 1	Cavalier 502.01/Road to Nekoma	0.6	252,801	0	250	0.00	14.4	0.0	1
6	39.01	Cavalier 39	79th Street	ND 66	5.5	852,902	0	85	0.00	18.6	0.0	2
1	39.02	Cavalier 39	ND 66	ND 5	9.1	4,800,526	1	290	0.02	6.1	0.2	2
10	55.01	Cavalier 55	ND 1	Cavalier 39	10.6	2,792,977	2	145	0.04	6.6	0.6	1
4	55.03	Cavalier 55	104th Street	County Limit	3.8	2,209,621	0	315	0.00	6.0	0.0	2
	504.01	0	End Gravel 13.03	County Limit	0.2	9,376	0	29	0.00	16.9	0.0	0
	505.01	0	End Gravel 13.03	County Limit	0.1	15,246	0	85	0.00	10.2	0.0	0
	506.01	93rd Street	ND 5	City Limits	0.2	7,984	0	29	0.00	13.3	0.0	0
	507.01	94th Street	Langdon City Limits	ND 1	0.5	113,267	0	130	0.00	8.4	0.0	1
	508.01	95th Street	ND 1	End of Pave	0.5	24,161	0	29	0.00	11.0	0.0	0
	510.01	80th Ave	ND 1	Nekoma City Limits	0.5	86,958	0	100	0.00	8.4	0.0	1
					66.3	20,091,272	5					

Edge Risk Legend

- 1 Risky' - NEITHER shoulder or good clear zone
- 2 Either a shoulder OR good clear zone
- 3 BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure

150
500

	Access	Lane Departure	Critical Radius Curves
Total	522.00	5	11
Total Mileage	66.3	66.3	66.3
Years		5	
Average Density (Total/Mile)	7.9	0.02	0.17

Cavalier County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers	
													Edge Risk	ADT
1	39.02	Cavalier 39	ND 66	ND 5	9.1	290	★			★	★	★★★★	2	290
2	17.03	Cavalier 17	ND 5	Cavalier 6	12.0	243	★	★			★	★★★★	2	243
3	6.04	Cavalier 6	Cavalier 13/Hanna CL	Cavalier 17	3.9	120			★	★	★	★★★★	2	120
4	55.03	Cavalier 55	104th Street	County Limit	3.8	315	★				★	★★★	2	315
5	6.02	Cavalier 6	M Street / Sarles	ND 20	2.7	198	★				★	★★★	2	198
6	39.01	Cavalier 39	79th Street	ND 66	5.5	85			★		★	★★	2	85
7	13.01	Cavalier 13	County Line	ND 66	7.0	70				★	★	★★	2	70
8	17.02	Cavalier 17	ND 66/Loma	ND 5	9.1	53				★	★	★★	2	53
9	26.01	Cavalier 26	ND 1	Cavalier 502.01/Road to Nekoma	0.6	250	★		★			★★	1	250
10	55.01	Cavalier 55	ND 1	Cavalier 39	10.6	145		★		★		★★	1	145
11	507.01	94th Street	Langdon City Limits	ND 1	0.5	130			★			★	1	130
12	510.01	80th Ave	ND 1	Nekoma City Limits	0.5	100			★			★	1	100
13	505.01	0	End Gravel 13.03	County Limit	0.1	85			★			★	0	85
14	504.01	0	End Gravel 13.03	County Limit	0.2	29			★			★	0	29
15	506.01	93rd Street	ND 5	City Limits	0.2	29			★			★	0	29
18	508.01	95th Street	ND 1	End of Pave	0.5	29			★			★	0	29

Total Stars -- 5
% That Gets Star -- 31%

2 13%
9 56%
5 31%
8 50%

	#	%	%
★★★★★	0	0%	0%
★★★★	0	0%	0%
★★★	3	19%	38%
★★	7	44%	59%
★	6	38%	3%
	0	0%	0%
	16	100%	100%

Stars

ADT Range - If segment has an ADT in the range of most at risk ADT based on Northeast totals. (150 < ADT < 500)

Lane Departure Density - If segment has higher lane departure density than the Northeast average (0.032).

Access Density - If segment has access density than the nationwide average (8).

Curve Critical Radius Density - If segment has higher density of curves with critical radius than the Northeast average (0.084).

Edge Risk Assessment - Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 39 from ND 66 to ND 5****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionStart: ND 66
End: ND 5
Facility Type: 2-lane
ADT: 290
Road Type Rural Paved
County Road Cavalier 39
Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 9.1
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	2	1	1
Density (per mile per year)	0.04	0.02	0.02
Rate (per MVM)	0.42	0.21	0.21

	Value	Critical	Road
ADT Range	290	150≤ADT≤500	★
RD Density	0.022	0.032	
Access Density	6.1	8.0	
Curve Critical Radius Density	0.220	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	9.1	\$5,915	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$5,324
Local Match (10% of Total project cost)	\$592
Total Project Cost	\$5,915

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 1
Segment ID: 39.02
Date: 10/23/2013

10/23/2013

23 USC 409: NDDOT Reserves All Objections

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov

ND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: ND 5	Lane Width: 12'
End: Cavalier 6	Speed Limit: High
Facility Type: 2-lane	Shoulder Width: 2'
ADT: 243	Shoulder Type: Gravel
Road Type Rural Paved	Length (miles): 12.0
County Road Cavalier 17	Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	2	2	0
Density (per mile per year)	0.03	0.03	0.00
Rate (per MVM)	0.38	0.38	0.00

	Value	Critical	Road
ADT Range	243	150≤ADT≤500	★
RD Density	0.033	0.032	★
Access Density	6.7	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	12.0	\$4,800	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$4,320
Local Match (10% of Total project cost)	\$480
Total Project Cost	\$4,800

NDDOT Central Office Only

Project Accepted?

☐ Yes ☐ No☐ No

Reference Number

ID Number

Notes

Page: 2
Segment ID: 17.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Cavalier 6 from Cavalier 13/Hanna CL to Cavalier 17

Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov

ND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Cavalier 13/Hanna CL
End: Cavalier 17
Facility Type: 2-lane
ADT: 120
Road Type Rural Paved
County Road Cavalier 6

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 3.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	120	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	9.7	8.0	★
Curve Critical Radius Density	0.256	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve projects suggested on other sheets
4" Edge Lines	Proactive	\$400	3.9	\$1,560	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,404
Local Match (10% of Total project cost)	\$156
Total Project Cost	\$1,560

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 3
Segment ID: 6.04
Date: 10/23/2013

10/23/2013

23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Cavalier 55 from 104th Street to County Limit

Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov

ND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: 104th Street
End: County Limit
Facility Type: 2-lane
ADT: 315
Road Type Rural Paved
County Road Cavalier 55

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 3.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	1	0	0
Density (per mile per year)	0.05	0.00	0.00
Rate (per MVM)	0.46	0.00	0.00

	Value	Critical	Road
ADT Range	315	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	6.0	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Scenic backway.
4" Edge Lines	Proactive	\$400	3.8	\$1,520	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,368
Local Match (10% of Total project cost)	\$152
Total Project Cost	\$1,520

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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Date: 10/23/2013

10/23/2013

23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Cavalier 6 from M Street / Sarles to ND 20

Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov

ND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: M Street / Sarles
End: ND 20
Facility Type: 2-lane
ADT: 198
Road Type Rural Paved
County Road Cavalier 6

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 2.7
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	198	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	5.9	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	2.7	\$1,080	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$972
Local Match (10% of Total project cost)	\$108
Total Project Cost	\$1,080

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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Date: 10/23/2013

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 39 from 79th Street to ND 66****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: 79th Street
End: ND 66
Facility Type: 2-lane
ADT: 85
Road Type Rural Paved
County Road Cavalier 39

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 5.5
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	1	0	0
Density (per mile per year)	0.04	0.00	0.00
Rate (per MVM)	1.17	0.00	0.00

	Value	Critical	Road
ADT Range	85	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	18.6	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	5.5	\$2,200	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,980
Local Match (10% of Total project cost)	\$220
Total Project Cost	\$2,200

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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10/23/2013

23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 13 from County Line to ND 66****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: County Line	Lane Width: 12'
End: ND 66	Speed Limit: High
Facility Type: 2-lane	Shoulder Width: 2'
ADT: 70	Shoulder Type: Gravel
Road Type Rural Paved	Length (miles): 7.0
County Road Cavalier 13	Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	1	0	0
Density (per mile per year)	0.03	0.00	0.00
Rate (per MVM)	1.12	0.00	0.00

	Value	Critical	Road
ADT Range	70	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	7.2	8.0	
Curve Critical Radius Density	0.288	0.084	★
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve and intersection projects suggested on other sheets
4" Edge Lines	Proactive	\$400	7.0	\$2,800	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,520
Local Match (10% of Total project cost)	\$280
Total Project Cost	\$2,800

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
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Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Cavalier 17 from ND 66/Loma to ND 5

Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov

ND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: ND 66/Loma
End: ND 5
Facility Type: 2-lane
ADT: 53
Road Type Rural Paved
County Road Cavalier 17

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 9.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	53	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	6.7	8.0	
Curve Critical Radius Density	0.219	0.084	★
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets
4" Edge Lines	Proactive	\$400	9.1	\$3,640	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,276
Local Match (10% of Total project cost)	\$364
Total Project Cost	\$3,640

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 26 from ND 1 to Cavalier 502.01/Road to Nekoma**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionStart: ND 1
End: Cavalier 502.01/Road to Nek
Facility Type: 2-lane
ADT: 250
Road Type Rural Paved
County Road Cavalier 26
Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 0.6
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	250	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	14.4	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	1	2 or 3	★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.6	\$390	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$351
Local Match (10% of Total project cost)	\$39
Total Project Cost	\$390

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					
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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 55 from ND 1 to Cavalier 39****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: ND 1
End: Cavalier 39
Facility Type: 2-lane
ADT: 145
Road Type Rural Paved
County Road Cavalier 55

Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 10.6
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

	Total	Road Dept	K+A
Crashes	3	2	0
Density (per mile per year)	0.06	0.04	0.00
Rate (per MVM)	1.07	0.72	0.00

	Value	Critical	Road
ADT Range	145	150≤ADT≤500	
RD Density	0.038	0.032	★
Access Density	6.6	8.0	
Curve Critical Radius Density	0.567	0.084	★
Edge Risk	1	2 or 3	★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	10.6	\$4,240	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,816
Local Match (10% of Total project cost)	\$424
Total Project Cost	\$4,240

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

Cavalier County Curves

Curve Count	ID	Corridor	Segment	Start	End	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes				Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
									Total	Total Severe	K	A							
1	06B	6.04	Cavalier 6	Cavalier 13/Hanna CL	Cavalier 17	No	No	No	-	-	-	-	950	120	Yes	Yes	High	***	
2	13A	13.01	Cavalier 13	County Line	ND 66	No	No	No	-	-	-	-	830	70	Yes	Yes	High	***	
3	13B	13.01	Cavalier 13	County Line	ND 66	No	No	No	-	-	-	-	810	70	Yes	Yes	High	***	
4	17C	17.02	Cavalier 17	ND 66/Loma	ND 5	No	No	No	-	-	-	-	880	53	Yes	No	High	**	
5	17D	17.02	Cavalier 17	ND 66/Loma	ND 5	No	No	No	-	-	-	-	830	53	Yes	No	High	**	
6	039A	39.02	Cavalier 39	ND 66	ND 5	Yes	Yes	No	-	-	-	-	1130	290	Yes	No	High	**	
7	039B	39.02	Cavalier 39	ND 66	ND 5	Yes	Yes	No	-	-	-	-	1300	290	Yes	No	High	*	
8	55A	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	1	-	-	-	1000	145	Yes	Yes	High	***	
9	55B	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	-	-	-	-	920	145	No	No	High	*	
10	55C	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	-	-	-	-	960	145	No	No	High	*	
11	55D	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	-	-	-	-	730	145	No	No	High	*	
12	55E	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	-	-	-	-	1970	145	Yes	No	High	*	
13	55F	55.01	Cavalier 55	ND 1	Cavalier 39	No	No	No	1	-	-	-	1200	145	Yes	No	High	**	

2 - - -

4

Stars	Total	
	#	%
*****	0	0%
****	0	0%
***	4	31%
**	4	31%
*	5	38%
	0	0%
	13	100%

Critical Ranges	Min	Max
Radius	500	1,200
ADT	350	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Cavalier 6 from Cavalier 13/Hanna CL to Cavalier 17**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)Start: Cavalier 13/Hanna CL
End: Cavalier 17
Facility Type: 2-lane
ADT: 120
Road Type Rural Paved
County Road Cavalier 6
Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 3.9
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
06B	0	0	950	120	Yes	Yes	★★★	-	x	Chevron	-	-	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$4,100	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$3,690
Local Match (10% of Total project cost) \$410
Total Project Cost **\$4,100****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Cavalier 13 from County Line to ND 66**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)Start: County Line
End: ND 66
Facility Type: 2-lane
ADT: 70
Road Type Rural Paved
County Road Cavalier 13Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 7.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
13A	0	0	830	70	Yes	Yes	★★★	-	x	Chevron	-	-	x	45
13B	0	0	810	70	Yes	Yes	★★★	-	x	Chevron	-	-	x	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	
Severe Crashes	> 0
Radius	500 to 1200
ADT	350 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- within Critical Radius**Describe Proposed Safety Improvements**

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$8,200	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,380
Local Match (10% of Total project cost) \$820
Total Project Cost **\$8,200****NDDOT Central Office Only**

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Cavalier 17 from ND 66/Loma to ND 5**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)Start: ND 66/Loma
End: ND 5
Facility Type: 2-lane
ADT: 53
Road Type Rural Paved
County Road Cavalier 17Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 9.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
17C	0	0	880	53	Yes	No	★★	-	x	Chevron	-	-	x	45
17D	0	0	830	53	Yes	No	★★	-	x	Chevron	-	-	x	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$8,200	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,380
Local Match (10% of Total project cost) \$820
Total Project Cost **\$8,200****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Cavalier 39 from ND 66 to ND 5**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)Start: ND 66
End: ND 5
Facility Type: 2-lane
ADT: 290
Road Type Rural Paved
County Road Cavalier 39Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 9.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
039A	0	0	1130	290	Yes	No	★★	-	x	Chevron	-	-	-	-
039B	0	0	1300	290	Yes	No	★	-	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$3,300	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$2,970
Local Match (10% of Total project cost) \$330
Total Project Cost **\$3,300****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Cavalier 55 from ND 1 to Cavalier 39**Agency Name: Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.govND DOT District: 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)Start: ND 1
End: Cavalier 39
Facility Type: 2-lane
ADT: 145
Road Type Rural Paved
County Road Cavalier 55Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 10.6
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008-2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
55A	0	0	1000	145	Yes	Yes	★★★	-	x	Chevron	-	-	x	50
55B	0	0	920	145	No	No	★	x	x	Chevron	-	-	x	50
55C	0	0	960	145	No	No	★	x	x	Chevron	-	-	x	50
55D	0	0	730	145	No	No	★	x	x	Chevron	-	-	x	45
55E	0	0	1970	145	Yes	No	★	x	-	-	-	-	-	-
55F	0	0	1200	145	Yes	No	★★	x	x	Chevron	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	5	\$16,500	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	4	\$3,200	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$19,700	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$17,730
Local Match (10% of Total project cost) \$1,970
Total Project Cost **\$19,700****NDDOT Central Office Only**

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

Cavalier County
Summary of Rural Intersection Projects

Page	Intersection ID	Description	Risk Ranking	Close Median	Install Street Lights	Signs & Markings	Project Cost (\$)
1	6.02	Cavalier 6 and ND 20 (80th Ave) North	★ ★ ★	-	-	x	\$1,150
2	26.01	Cavalier 26 and ND 1	★ ★ ★	x	-	x	\$28,700
3	6.07	Cavalier 6 and ND 1	★ ★	-	-	x	\$1,150
4	13.03	Cavalier 13 and ND 66 (East)	★ ★	-	-	x	\$3,000
5	13.04	Cavalier 13 and ND 66 (West)	★ ★	-	-	x	\$2,800
6	17.04	Cavalier 17 and ND 66 (West)	★ ★	-	-	x	\$3,250
7	17.05	Cavalier 17 and ND 5	★ ★	-	-	x	\$3,700
8	39.02	Cavalier 39 and ND 5	★ ★	-	x	x	\$9,000
9	45.01	Cavalier 45 and ND 66 (west)	★ ★	-	-	x	\$2,550
				1	1	10	\$55,300

**Cavalier County
Rural Intersection Listing**

Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	Cross Product ADT >100,000	Crash Cost
6.01	Cavalier 6 and ND 20 (80th Ave) South	No	No	No	No	172	No	0	No	\$ -
6.02	Cavalier 6 and ND 20 (80th Ave) North	Yes	Yes	No	No	100	Yes	0	No	\$ -
6.03	Cavalier 6 and Cavalier 13	No	No	No	No	213	Yes	0	No	\$ -
6.04	Cavalier 6 and 108th Street	No	No	No	No	140	Yes	0	No	\$ -
6.05	Cavalier 6 and Cavalier 17	No	No	No	No	205	Yes	0	No	\$ -
6.06	Cavalier 6 and Cavalier 23	No	No	No	No	95	Yes	0	No	\$ -
6.07	Cavalier 6 and ND 1	No	No	No	No	265	Yes	1	No	\$ 824,000
12.01	Cavalier 12 and ND 20	No	No	No	No	288	Yes	0	No	\$ -
12.02	Cavalier 12 and Cavalier 13	No	No	No	No	85	Yes	0	No	\$ -
13.01	NOT WITH COUNTY ROAD	No	Yes	No	No	86	0	0	No	\$ -
13.02	NOT WITH COUNTY ROAD	No	Yes	No	No	85	0	0	No	\$ -
13.03	Cavalier 13 and ND 66 (East)	No	No	No	Yes	315	Yes	0	No	\$ -
13.04	Cavalier 13 and ND 66 (West)	No	No	No	Yes	320	Yes	0	No	\$ -
13.05	Cavalier 13 and ND 5	No	No	No	No	643	Yes	0	No	\$ -
17.01	NOT WITH COUNTY ROAD	No	Yes	No	No	37	0	0	No	\$ -
17.02	NOT WITH COUNTY ROAD	No	Yes	No	No	35	0	0	No	\$ -
17.03	Cavalier 17 and ND 66 (East)	No	No	No	No	253	Yes	0	No	\$ -
17.04	Cavalier 17 and ND 66 (West)	No	No	No	Yes	265	Yes	0	No	\$ -
17.05	Cavalier 17 and ND 5	No	No	No	No	915	Yes	0	Yes	\$ -
23.01	Cavalier 23 and ND 5	No	No	No	No	1005	Yes	0	No	\$ -
24.01	Cavalier 24 and Cavalier 39	No	No	No	No	435	Yes	0	No	\$ -
24.02	Cavalier 24 and Cavalier 45	No	No	No	No	54	Yes	0	No	\$ -
24.03	Cavalier 24 (87th Street) and Cavalier 24 (23rd Ave)	No	No	No	No	54	No	0	No	\$ -
24.04	Cavalier 24 (23rd Ave) and Cavalier 24 (88th Street)	No	No	No	No	44	No	1	No	\$ 12,000
26.01	Cavalier 26 and ND 1	Yes	Yes	No	No	765	Yes	0	No	\$ -
26.02	Cavalier 26 and Cavalier 502	No	No	No	No	243	No	0	No	\$ -
26.03	Cavalier 26 and Cavalier 503	No	No	No	No	13	Yes	0	No	\$ -
33.01	Cavalier 33 and ND 66	No	No	No	No	417	Yes	0	No	\$ -
33.02	Cavalier 33 and ND 5	No	No	No	No	1155	Yes	0	No	\$ -
33.03	Cavalier 33 and Cavalier 55	No	No	No	No	110	Yes	0	No	\$ -
39.01	Cavalier 39 and ND 66	No	No	No	No	693	Yes	0	No	\$ -
39.02	Cavalier 39 and ND 5	No	No	No	No	1030	Yes	0	Yes	\$ -
39.03	Cavalier 39 and Cavalier 55	No	No	No	No	187	Yes	0	No	\$ -
45.01	Cavalier 45 and ND 66 (west)	Yes	No	No	No	58	Yes	0	No	\$ -
45.02	Cavalier 45 and ND 66 (east)	No	No	No	No	0	Yes	0	No	\$ -
45.03	Cavalier 45 and ND 5	No	No	No	No	0	Yes	0	No	\$ -
55.01	Cavalier 55 and ND 1	No	No	No	No	473	Yes	0	No	\$ -
503.01	Cavalier 503 and ND 66	No	No	No	No	375	No	0	No	\$ -
506.01	Cavalier 506 and ND 5	No	No	No	No	365	No	0	No	\$ -
507.01	Cavalier 507 and ND 1	No	No	No	No	987	No	0	No	\$ -
508.01	Cavalier 508 and ND 1	No	No	No	No	729	No	0	No	\$ -
510.01	Cavalier 510 and ND 1	No	No	No	No	563	No	0	No	\$ -

Cavalier County
Rural Intersection Prioritization

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	Cross Product ADT >100,000	Priority	Crash Cost
1	6.02	Cavalier 6 and ND 20 (80th Ave) North	★	★			★			★★★	\$ -
2	26.01	Cavalier 26 and ND 1	★	★			★			★★★	\$ -
3	6.07	Cavalier 6 and ND 1					★	★		★★★	\$ 824,000
4	13.03	Cavalier 13 and ND 66 (East)				★	★			★★	\$ -
5	13.04	Cavalier 13 and ND 66 (West)				★	★			★★	\$ -
6	17.04	Cavalier 17 and ND 66 (West)				★	★			★★	\$ -
7	17.05	Cavalier 17 and ND 5					★		★	★★	\$ -
8	39.02	Cavalier 39 and ND 5					★		★	★★	\$ -
9	45.01	Cavalier 45 and ND 66 (west)	★				★			★★	\$ -
10	24.04	Cavalier 24 (23rd Ave) and Cavalier 24 (88th Street)						★		★	\$ 12,000
11	6.03	Cavalier 6 and Cavalier 13					★			★	\$ -
12	6.04	Cavalier 6 and 108th Street					★			★	\$ -
13	6.05	Cavalier 6 and Cavalier 17					★			★	\$ -
14	6.06	Cavalier 6 and Cavalier 23					★			★	\$ -
15	12.01	Cavalier 12 and ND 20					★			★	\$ -
16	12.02	Cavalier 12 and Cavalier 13					★			★	\$ -
17	13.01	NOT WITH COUNTY ROAD		★						★	\$ -
18	13.02	NOT WITH COUNTY ROAD		★						★	\$ -
19	13.05	Cavalier 13 and ND 5					★			★	\$ -
20	17.01	NOT WITH COUNTY ROAD		★						★	\$ -
21	17.02	NOT WITH COUNTY ROAD		★						★	\$ -
22	17.03	Cavalier 17 and ND 66 (East)					★			★	\$ -
23	23.01	Cavalier 23 and ND 5					★			★	\$ -
24	24.01	Cavalier 24 and Cavalier 39					★			★	\$ -
25	24.02	Cavalier 24 and Cavalier 45					★			★	\$ -
26	26.03	Cavalier 26 and Cavalier 503					★			★	\$ -
27	33.01	Cavalier 33 and ND 66					★			★	\$ -
28	33.02	Cavalier 33 and ND 5					★			★	\$ -
29	33.03	Cavalier 33 and Cavalier 55					★			★	\$ -
30	39.01	Cavalier 39 and ND 66					★			★	\$ -
31	39.03	Cavalier 39 and Cavalier 55					★			★	\$ -
32	45.02	Cavalier 45 and ND 66 (east)					★			★	\$ -
33	45.03	Cavalier 45 and ND 5					★			★	\$ -
34	55.01	Cavalier 55 and ND 1					★			★	\$ -
35	6.01	Cavalier 6 and ND 20 (80th Ave) South									\$ -
36	24.03	Cavalier 24 (87th Street) and Cavalier 24 (23rd Ave)									\$ -
37	26.02	Cavalier 26 and Cavalier 502									\$ -
38	503	Cavalier 503 and ND 66									\$ -
39	506	Cavalier 506 and ND 5									\$ -
40	507	Cavalier 507 and ND 1									\$ -
41	508.01	Cavalier 508 and ND 1									\$ -
42	510	Cavalier 510 and ND 1									\$ -

Totals
 Total Stars -- 3 6 0 3 29 2 2
 % That Gets Star -- 7% 14% 0% 7% 69% 5% 5%

	#	%
★★★★★★	0	0%
★★★★★	0	0%
★★★★	0	0%
★★★	0	0%
★★	2	5%
★	7	17%
	25	60%
-	8	19%
	42	100%

Stars
 Skew - If intersection is skewed at an angle of 20 degrees or greater.
 On/Near Curve - If intersection is on or within 1,000 feet of curve.
 Development - If intersection aerial shows a commercial development with access near intersection.
 RR Xing - If intersection has a railroad crossing on any approach within 500 feet.
 Previous STOP (>5 mi) - If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles
 Total Crashes - If intersection has at least 1 crash.
 Cross Product ADT - If intersection has an ADT cross product >100,000

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 6 and ND 20 (80th Ave) North****Agency Name: Cavalier County****Contact Name: Terry Johnston****Email Address: tjohnsto@nd.gov****ND DOT District: 3****Telephone Number: 701-256-2161**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 70
Entering ADT: 100 Minor Entering ADT: 60

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$1,150.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$1,035
Local Match (10% of Total project cost) \$115
Total Project Cost **\$1,150**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 26 and ND 1****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Divided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 640
Entering ADT: 765 Minor Entering ADT: 125

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	1	\$25,000.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$28,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$25,830
Local Match (10% of Total project cost) \$2,870
Total Project Cost **\$28,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 2

Intersection ID: 26.01

Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 6 and ND 1****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 243
Entering ADT: 265 Minor Entering ADT: 45

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

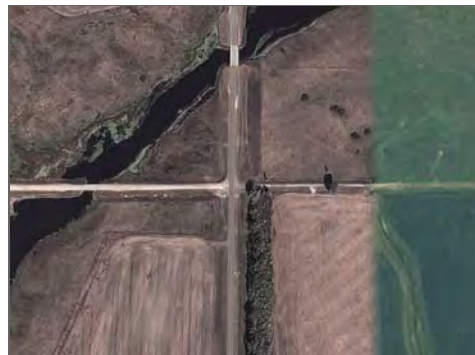
Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	1
Rate (per MVM)	2.1	0.0	2.1

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$1,150.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$1,035
Local Match (10% of Total project cost) \$115
Total Project Cost **\$1,150****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 13 and ND 66 (East)****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 273
Entering ADT: 315 Minor Entering ADT: 42

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

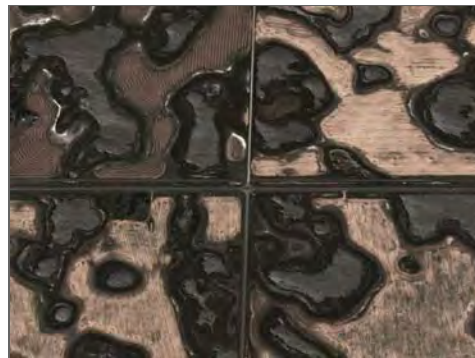
Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$3,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$2,700
Local Match (10% of Total project cost) \$300
Total Project Cost **\$3,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 13 and ND 66 (West)****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 303
Entering ADT: 320 Minor Entering ADT: 18

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$2,800.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$2,520
Local Match (10% of Total project cost) \$280
Total Project Cost **\$2,800****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 17 and ND 66 (West)****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 228
Entering ADT: 265 Minor Entering ADT: 37

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,250.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$2,925
Local Match (10% of Total project cost) \$325
Total Project Cost **\$3,250****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 17 and ND 5****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 775
Entering ADT: 915 Minor Entering ADT: 140

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$3,330
Local Match (10% of Total project cost) \$370
Total Project Cost **\$3,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 39 and ND 5****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 863
Entering ADT: 1030 Minor Entering ADT: 168

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Cavalier 45 and ND 66 (west)****Agency Name:** Cavalier County
Contact Name: Terry Johnston
Email Address: tjohnsto@nd.gov**ND DOT District:** 3
Telephone Number: 701-256-2161

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Cavalier Major Entering ADT: 29
Entering ADT: 58 Minor Entering ADT: 29

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$2,550.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$2,295
Local Match (10% of Total project cost) \$255
Total Project Cost **\$2,550****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

**Nelson County
Rural Segment Projects**

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	4" Edge Line	Project Cost (\$)
1	35.02	Nelson 35 0	Intersection with ND 15	Intersection with 34th St	9.9	★ ★ ★	9.9	\$3,960.00
2	19.01	Nelson 19 0	Intersection with ND 1	Intersection with US Hwy 2	5.4	★ ★ ★	10.8	\$4,320.00
3	35.03	Nelson 35 0	Intersection with Nelson 4	Intersection with South St	8.1	★ ★	8.1	\$3,240.00
4	1.03	Nelson 1 0	Intersection with ND 35	East Border of Nelson County	10.0	★ ★	10.0	\$4,000.00
5	4.03	Nelson 4 0	Intersection with ND 1	Intersection with Nelson 35 on 113th	8.1	★ ★	8.1	\$3,240.00
6	5.02	Nelson 5 0	Rail road crossing south of city of Kloten	Intersection with ND 32	2.1	★ ★	2.1	\$840.00
7	23.03	Nelson 23 0	Intersection with ND 15	Intersection with 31th St	4.0	★ ★	4.0	\$1,600.00
8	4.02	Nelson 4A 0	Intersection with Pavilion Rd	Intersection with ND 1	2.1	★ ★	2.1	\$840.00
9	18.02	Nelson 18 0	Intersection with 112th Ave	Intersection with ND 15	0.5	★ ★	0.5	\$200.00
10	4.04	Nelson 4 0	Intersection with Nelson 35 on 113th Ave	Intersection with ND 32	8.0	★	8.0	\$3,200.00
11	4.05	Nelson 4 0	Intersection with ND 32	Intersection with 49th St	5.0	★	5.0	\$2,000.00
12	1.02	Nelson 1 0	Intersection with ND 1	Intersection with ND 35	10.0	★	10.0	\$4,000.00
							78.6	\$31,440.00

**Nelson County
Rural Segment Listing**

*High Priority Segments Project Sheet Page Number

Project Sheet Page*	Corridor	Route	Start	End	Length (miles)	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assessment
12	1.02	Nelson 1	Intersection with ND 1	Intersection with ND 35	10.0	1	86	0.02	6.8	0.00	2
4	1.03	Nelson 1	Intersection with ND 35	East Border of Nelson County	10.0	0	129	0.00	5.5	0.10	2
8	4.02	Nelson 4A	Intersection with Pavilion Rd	Intersection with ND 1	2.1	0	105	0.00	11.2	1.95	1
5	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 1	8.1	0	80	0.00	7.0	0.61	2
10	4.04	Nelson 4	Intersection with Nelson 35 on 113th Ave	Intersection with ND 32	8.0	0	105	0.00	5.4	0.00	2
11	4.05	Nelson 4	Intersection with ND 32	Intersection with 49th St	5.0	0	95	0.00	7.0	0.00	2
6	5.02	Nelson 5	Rail road crossing south of city of Kloten	Intersection with ND 32	2.1	0	50	0.00	12.1	0.00	2
	14.01	Nelson 14	Intersection with 51st Street	Intersection with 1st Ave	0.5	0	270	0.00	6.5	0.00	1
9	18.02	Nelson 18	Intersection with 112th Ave	Intersection with ND 15	0.5	0	75	0.00	27.6	2.12	1
2	19.01	Nelson 19	Intersection with ND 1	Intersection with US Hwy 2	5.4	1	76	0.04	5.8	0.19	2
	23.02	Nelson 23	Intersection with 20th St	Intersection with ND 15	7.0	0	111	0.00	6.3	0.00	1
7	23.03	Nelson 23	Intersection with ND 15	Intersection with 31th St	4.0	0	374	0.00	16.5	0.00	1
1	35.02	Nelson 35	Intersection with ND 15	Intersection with 34th St	9.9	0	184	0.00	7.4	0.20	2
3	35.03	Nelson 35	Intersection with Nelson 4	Intersection with South St	8.1	1	171	0.02	6.6	0.00	2

80.7 3

Edge Risk Legend

- 1 Risky' - NEITHER shoulder or good clear zone
- 2 Either a shoulder OR good clear zone
- 3 BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure

150
500

	Access	Lane Departure	Critical Radius Curves
Total	589	3	1
Total Mileage	80.7	80.7	80.7
Years		5	
Average Density (Total/Mile)	7.3	0.01	0.01

10/23/2013

23 USC 409: NDDOT Reserves All Objections

Nelson County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	#	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers Edge Risk ADT
1	35.02	Nelson 35	0	Intersection with ND 15	Intersection with 34th St	9.9	184	★			★	★	★★★	2 184
2	19.01	Nelson 19	0	Intersection with ND 1	Intersection with US Hwy 2	5.4	76		★		★	★	★★★	2 76
3	35.03	Nelson 35	0	Intersection with Nelson 4	Intersection with South St	8.1	171	★				★	★★	2 171
4	1.03	Nelson 1	0	Intersection with ND 35	East Border of Nelson County	10.0	129				★	★	★★	2 129
5	4.03	Nelson 4	0	Intersection with ND 1	Intersection with Nelson 35 on 113th /	8.1	80				★	★	★★	2 80
6	5.02	Nelson 5	0	Rail road crossing south of city of Kloten	Intersection with ND 32	2.1	50			★		★	★★	2 50
7	23.03	Nelson 23	0	Intersection with ND 15	Intersection with 31th St	4.0	374	★		★			★★	1 374
8	4.02	Nelson 4A	0	Intersection with Pavilion Rd	Intersection with ND 1	2.1	105			★	★		★★	1 105
9	18.02	Nelson 18	0	Intersection with 112th Ave	Intersection with ND 15	0.5	75			★	★		★★	1 75
10	4.04	Nelson 4	0	Intersection with Nelson 35 on 113th Ave	Intersection with ND 32	8.0	105					★	★	2 105
11	4.05	Nelson 4	0	Intersection with ND 32	Intersection with 49th St	5.0	95					★	★	2 95
12	1.02	Nelson 1	0	Intersection with ND 1	Intersection with ND 35	10.0	86					★	★	2 86
13	14.01	Nelson 14	0	Intersection with 51st Street	Intersection with 1st Ave	0.5	270	★					★	1 270
14	23.02	Nelson 23	0	Intersection with 20th St	Intersection with ND 15	7.0	111							1 111

Total Stars -- 4 1 4 6 9
% That Gets Star -- 29% 7% 29% 43% 64%

	#	%	Mileage	%
★★★★★	0	0%	0.0	0%
★★★★	0	0%	0.0	0%
★★★	2	14%	15.3	19%
★★	7	50%	34.9	43%
★	4	29%	23.5	29%
	1	7%	7.0	9%
	14	100%	80.7	100%

Stars
ADT Range - If segment has an ADT in the range of most at risk ADT based on Northeast totals. (150 < ADT < 500)
Lane Departure Density - If segment has higher lane departure density than the Northeast average (0.032).
Access Density - If segment has access density than the nationwide average (8).
Curve Critical Radius Density - If segment has higher density of curves with critical radius than the Northeast average (0.084).
Edge Risk Assessment - Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 35 from Intersection with ND 15 to Intersection with 34th St****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 15
End: Intersection with 34th St
Facility Type: 2-Lane
ADT: 184
Road Type Rural Paved
County Road Nelson 35

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 9.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	0	0
Density (per mile per year)	0.04	0.00	0.00
Rate (per MVM)	0.60	0.00	0.00

	Value	Critical	Road
ADT Range	184	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	7.4	8.0	
Curve Critical Radius Density	0.202	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets
4" Edge Lines	Proactive	\$400	9.9	\$3,960	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,564
Local Match (10% of Total project cost)	\$396
Total Project Cost	\$3,960

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 19 from Intersection with ND 1 to Intersection with US Hwy 2****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 1
End: Intersection with US Hwy 2
Facility Type: 2-Lane
ADT: 76
Road Type Rural Paved
County Road Nelson 19

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 5.4
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	1	1	0
Density (per mile per year)	0.04	0.04	0.00
Rate (per MVM)	1.34	1.34	0.00

	Value	Critical	Road
ADT Range	76	150≤ADT≤500	
RD Density	0.037	0.032	★
Access Density	5.8	8.0	
Curve Critical Radius Density	0.186	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge line cost includes 4" centerline marking. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	10.8	\$4,320	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,888
Local Match (10% of Total project cost)	\$432
Total Project Cost	\$4,320

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 35 from Intersection with Nelson 4 to Intersection with South St****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with Nelson 4
End: Intersection with South St
Facility Type: 2-Lane
ADT: 171
Road Type Rural Paved
County Road Nelson 35

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 8.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	3	1	1
Density (per mile per year)	0.07	0.02	0.02
Rate (per MVM)	1.19	0.40	0.40

	Value	Critical	Road
ADT Range	171	150≤ADT≤500	★
RD Density	0.025	0.032	
Access Density	6.6	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets
4" Edge Lines	Proactive	\$400	8.1	\$3,240	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,916
Local Match (10% of Total project cost)	\$324
Total Project Cost	\$3,240

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 1 from Intersection with ND 35 to East Border of Nelson County**Agency Name: Nelson County****ND DOT District: 3/6****Contact Name: Richard Urvand****Telephone Number: 701-322-4433****Email Address: nelsonhwy@gondtc.com**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 35
End: East Border of Nelson County
Facility Type: 2-Lane
ADT: 129
Road Type Rural Paved
County Road Nelson 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 10.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	0	0
Density (per mile per year)	0.04	0.00	0.00
Rate (per MVM)	0.85	0.00	0.00

	Value	Critical	Road
ADT Range	129	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	5.5	8.0	
Curve Critical Radius Density	0.100	0.084	★
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	10.0	\$4,000	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,600
Local Match (10% of Total project cost)	\$400
Total Project Cost	\$4,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 4 from Intersection with ND 1 to Intersection with Nelson 35 on 113th Ave**Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 1
End: Intersection with Nelson 35 on 113th Ave
Facility Type: 2-Lane
ADT: 80
Road Type Rural Paved
County Road Nelson 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 8.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	80	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	7.0	8.0	
Curve Critical Radius Density	0.614	0.084	★
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	8.1	\$3,240	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,916
Local Match (10% of Total project cost)	\$324
Total Project Cost	\$3,240

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 5 from Rail road crossing south of city of Klotten to Intersection with ND 32

Agency Name: Nelson County

ND DOT District: 3/6

Contact Name: Richard Urvand

Telephone Number: 701-322-4433

Email Address: nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Rail road crossing south of cil
End: Intersection with ND 32
Facility Type: 2-Lane
ADT: 50
Road Type Rural Paved
County Road Nelson 5

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	50	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	12.1	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	2.1	\$840	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$756
Local Match (10% of Total project cost)	\$84
Total Project Cost	\$840

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 23 from Intersection with ND 15 to Intersection with 31th St****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 15
End: Intersection with 31th St
Facility Type: 2-Lane
ADT: 374
Road Type Rural Paved
County Road Nelson 23

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 4.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	0	0
Density (per mile per year)	0.30	0.00	0.00
Rate (per MVM)	2.20	0.00	0.00

	Value	Critical	Road
ADT Range	374	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	16.5	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	1	2 or 3	★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	4.0	\$1,600	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,440
Local Match (10% of Total project cost)	\$160
Total Project Cost	\$1,600

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 4A from Intersection with Pavilion Rd to Intersection with ND 1****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with Pavilion Rd
End: Intersection with ND 1
Facility Type: 2-Lane
ADT: 105
Road Type Rural Paved
County Road Nelson 4A

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	105	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	11.2	8.0	★
Curve Critical Radius Density	1.947	0.084	★
Edge Risk	1	2 or 3	★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Consider combining with other segment projects along Nelson 4. Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	2.1	\$840	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$756
Local Match (10% of Total project cost)	\$84
Total Project Cost	\$840

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 18 from Intersection with 112th Ave to Intersection with ND 15**Agency Name: Nelson County****ND DOT District: 3/6****Contact Name: Richard Urvand****Telephone Number: 701-322-4433****Email Address: nelsonhwy@gondtc.com**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with 112th Ave
End: Intersection with ND 15
Facility Type: 2-Lane
ADT: 75
Road Type Rural Paved
County Road Nelson 18

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 0.5
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	75	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	27.6	8.0	★
Curve Critical Radius Density	2.124	0.084	★
Edge Risk	1	2 or 3	★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Consider combining with intersection projects along Nelson 18. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.5	\$200	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$180
Local Match (10% of Total project cost)	\$20
Total Project Cost	\$200

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 4 from Intersection with Nelson 35 on 113th Ave to Intersection with ND 32**Agency Name: Nelson County****ND DOT District: 3/6****Contact Name: Richard Urvand****Telephone Number: 701-322-4433****Email Address: nelsonhwy@gondtc.com**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with Nelson 35 or
End: Intersection with ND 32
Facility Type: 2-Lane
ADT: 105
Road Type Rural Paved
County Road Nelson 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 8.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	5	0	0
Density (per mile per year)	0.13	0.00	0.00
Rate (per MVM)	3.27	0.00	0.00

	Value	Critical	Road
ADT Range	105	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	5.4	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	8.0	\$3,200	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,880
Local Match (10% of Total project cost)	\$320
Total Project Cost	\$3,200

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Nelson 4 from Intersection with ND 32 to Intersection with 49th St****Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 32
End: Intersection with 49th St
Facility Type: 2-Lane
ADT: 95
Road Type Rural Paved
County Road Nelson 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 5.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	3	0	0
Density (per mile per year)	0.12	0.00	0.00
Rate (per MVM)	3.46	0.00	0.00

	Value	Critical	Road
ADT Range	95	150≤ADT≤500	
RD Density	0.000	0.032	
Access Density	7.0	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	5.0	\$2,000	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,800
Local Match (10% of Total project cost)	\$200
Total Project Cost	\$2,000

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 11
Segment ID: 4.05
Date: 10/23/2013

10/23/2013

23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Nelson 1 from Intersection with ND 1 to Intersection with ND 35**Agency Name:** Nelson County**ND DOT District:** 3/6**Contact Name:** Richard Urvand**Telephone Number:** 701-322-4433**Email Address:** nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Start: Intersection with ND 1
End: Intersection with ND 35
Facility Type: 2-Lane
ADT: 86
Road Type Rural Paved
County Road Nelson 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 10.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	7	1	0
Density (per mile per year)	0.14	0.02	0.00
Rate (per MVM)	4.45	0.64	0.00

	Value	Critical	Road
ADT Range	86	150≤ADT≤500	
RD Density	0.020	0.032	
Access Density	6.8	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	10.0	\$4,000	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,600
Local Match (10% of Total project cost)	\$400
Total Project Cost	\$4,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 12
Segment ID: 1.02
Date: 10/23/2013

10/23/2013

23 USC 409: NDDOT Reserves All Objections

Nelson County Curves

Curve Count	ID	Corridor	Segment	Start	End	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes			Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
									Total	K	A							
1	001A	1.03	Nelson 1	Intersection with ND 35	East Border of Nelson County	No	No	No	-	-	-	2000	129	No	No	High		
2	004A	4.02	Nelson 4A	Intersection with Pavilion Rd	Intersection with ND 1	No	No	No	-	-	-	300	105	No	No	High		
3	004B	4.02	Nelson 4A	Intersection with Pavilion Rd	Intersection with ND 1	No	No	No	-	-	-	350	105	Yes	Yes	High	★ ★	
4	004C	4.02	Nelson 4A	Intersection with Pavilion Rd	Intersection with ND 1	Yes	No	No	-	-	-	350	105	Yes	Yes	High	★ ★	
5	004D	4.02	Nelson 4A	Intersection with Pavilion Rd	Intersection with ND 1	Yes	No	Yes	-	-	-	100	105	Yes	Yes	High	★ ★	Arrow Board
6	004E	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 113th Ave	Yes	No	No	-	-	-	1150	80	No	No	High	★	S-Curve
7	004F	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 113th Ave	Yes	No	No	-	-	-	1250	80	No	No	High		S-Curve
8	004G	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 113th Ave	Yes	No	No	-	-	-	1650	80	No	No	High		Curvy Road
9	004H	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 113th Ave	Yes	No	No	-	-	-	1900	80	No	No	High		Curvy Road
10	004I	4.03	Nelson 4	Intersection with ND 1	Intersection with Nelson 35 on 113th Ave	Yes	No	No	-	-	-	2100	80	No	No	High		Curvy Road
11	018A	18.02	Nelson 18	Intersection with 112th Ave	Intersection with ND 15	Yes	No	No	-	-	-	200	75	No	Yes	Low	★	Yellow Rectangles
12	019A	19.01	Nelson 19	Intersection with ND 1	Intersection with US Hwy 2	No	No	No	-	-	-	200	76	Yes	No	High	★	Curves Perp to Int
13	035A	35.02	Nelson 35	Intersection with ND 15	Intersection with 34th St	No	No	No	-	-	-	1750	184	No	No	High		
14	035B	35.02	Nelson 35	Intersection with ND 15	Intersection with 34th St	No	No	No	-	-	-	8500	184	Yes	No	High	★	

Stars	Total	
	#	%
★★★★★	0	0%
★★★★	0	0%
★★★	0	0%
★★	3	21%
★	4	29%
	7	50%
	14	100%

Critical Ranges	Min	Max
Radius	500	1,200
ADT	350	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Nelson 4A from Intersection with Pavilion Rd to Intersection with ND 1**

Agency Name: Nelson County

ND DOT District: 3/6

Contact Name: Richard Urvand

Telephone Number: 701-322-4433

Email Address: nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with Pavilion Rd
End: Intersection with ND 1
Facility Type: 2-Lane
ADT: 105
Road Type Rural Paved
County Road Nelson 4A

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
004A	0	0	300	105	No	No		x	-	Chevron	-	-	x	35
004B	0	0	350	105	Yes	Yes	★★	x	-	Chevron	-	-	x	35
004C	0	0	350	105	Yes	Yes	★★	x	-	Chevron	-	-	x	35
004D	0	0	100	105	Yes	Yes	★★	x	-	Arrow	-	-	x	Inspect Curve

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment projects suggested on other sheets
Chevrons	Proactive	\$3,300 per curve	3	\$9,900	
Arrow Board Only	Proactive	\$500 per curve	1	\$500	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	4	\$3,200	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$13,600	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$12,240
Local Match (10% of Total project cost) \$1,360
Total Project Cost **\$13,600**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Nelson 4 from Intersection with ND 1 to Intersection with Nelson 35 on 113th Ave**

Agency Name: Nelson County

ND DOT District: 3/6

Contact Name: Richard Urvand

Telephone Number: 701-322-4433

Email Address: nelsonhwy@gondtc.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with ND 1
End: Intersection with Nelson 35 on 113th A
Facility Type: 2-Lane
ADT: 80
Road Type Rural Paved
County Road Nelson 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 8.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
004E	0	0	1150	80	No	No	★	-	x	Chevron	-	-	-	-
004F	0	0	1250	80	No	No		x	-	-	-	-	-	-
004G	0	0	1650	80	No	No		x	-	-	-	-	-	-
004H	0	0	1900	80	No	No		x	-	-	-	-	-	-
004I	0	0	2100	80	No	No		x	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$3,300	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$2,970
Local Match (10% of Total project cost) \$330
Total Project Cost **\$3,300**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

**Nelson County
Summary of Rural Intersection Projects**

Page	Intersection ID	Description	Risk Ranking	Install Street Lights	Signs & Markings	Project Cost (\$)
1	18.07	Main St (Nelson 18) & ND 15	★ ★ ★ ★ ★	-	x	\$3,700
2	35.04	115th Ave (Nelson 35) & US 2/ND 35	★ ★ ★ ★	x	x	\$9,700
3	35.03	113th Ave (Nelson 35) & ND 15 (W)	★ ★ ★ ★	x	x	\$7,850
4	19.01	42nd St (Nelson 19) & ND 1	★ ★ ★	-	x	\$3,000
5	19.04	42nd St (Nelson 19) & US 2	★ ★ ★	-	x	\$1,850
6	35.02	113th Ave (Nelson 35) & ND 15 (E)	★ ★ ★	-	x	\$2,300
7	4.04	34th St (Nelson 4) & ND 1 (N)	★ ★	-	x	\$3,700
8	4.08	34th St (Nelson 4) & ND 32	★ ★	-	x	\$3,700
9	18.01	21st St (Nelson 18) & ND 1	★ ★	-	-	\$2,300
				2	8	\$38,100

**Nelson County
Rural Intersection Listing**

Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Crash Cost
1.01	51st St (Nelson 1) & ND 1	No	No	No	No	548	Yes	0	No	\$ -
1.02	51st St (Nelson 1) & 110th/111th Ave (Nelson 22)	No	No	No	No	120	Yes	0	No	\$ -
1.03	51st St (Nelson 1) & ND 35	No	No	No	No	348	Yes	0	No	\$ -
1.04	51st St (Nelson 1) & 122nd Ave (Nelson 5)	No	No	No	No	166	Yes	0	No	\$ -
1.05	51st St (Nelson 1) & 125th Ave (Nelson 14)	No	No	No	No	330	Yes	0	No	\$ -
4.01	31st St (Nelson 4) & 96th Ave (Nelson 27)	No	No	No	No	89	Unknown	0	No	\$ -
4.02	31st St (Nelson 4) & 100th Ave (Nelson 23)	No	No	No	No	220	No	0	No	\$ -
4.03	105th Ave (Nelson 4A) & ND 1 (S)	No	Yes	No	No	533	Yes	0	No	\$ -
4.04	34th St (Nelson 4) & ND 1 (N)	No	No	No	No	540	Yes	1	No	\$ 12,000
4.05	34th St (Nelson 4) & 110th Ave (Nelson 22)	No	No	No	No	135	Yes	0	No	\$ -
4.06	34th St (Nelson 4) & 113th Ave (Nelson 35) (W)	No	No	No	No	170	Yes	0	No	\$ -
4.07	34th St (Nelson 4) & 115th Ave (Nelson 35) (E)	No	No	No	No	212	Yes	0	No	\$ -
4.08	34th St (Nelson 4) & ND 32	No	No	No	No	335	Yes	1	No	\$ 12,000
4.09	34th St (Nelson 4) & 49th Ave (Nelson 9)	No	No	No	No	135	Unknown	0	No	\$ -
5.01	116th Ave (Nelson 5) & 19th St (Nelson 20)	No	No	No	No	150	Unknown	0	No	\$ -
5.02	117th Ave (Nelson 5) & ND 15	No	No	No	No	510	Yes	0	No	\$ -
9.01	49th Ave (Nelson 9) & US 2	No	No	No	No	1850	Yes	0	No	\$ -
18.01	21st St (Nelson 18) & ND 1	No	No	No	No	262	Yes	1	No	\$ 12,000
18.02	21st St (Nelson 18) & 108th Ave (Nelson 18)	No	No	No	No	44	Yes	0	No	\$ -
18.03	108th Ave (Nelson 18) & 22 1/2 St (Nelson 18)	No	No	No	No	30	Yes	0	No	\$ -
18.04	22 1/2 St (Nelson 18) & 23 1/2 St (Nelson 18)	Yes	Yes	No	No	37	Yes	0	No	\$ -
18.05	22 1/2 St (Nelson 18) & 110th Ave (Nelson 18)	Yes	Yes	No	No	45	Yes	0	No	\$ -
18.06	110th Ave (Nelson 18) & 24th St (Nelson 18)	No	No	No	No	59	Yes	0	No	\$ -
18.07	Main St (Nelson 18) & ND 15	Yes	No	Yes	Yes	895	Yes	0	Yes	\$ -
19.01	42nd St (Nelson 19) & ND 1	Yes	Yes	No	No	625	Yes	0	No	\$ -
19.02	42nd St (Nelson 19) & 111th Ave (Nelson 22) (W)	No	No	No	No	78	Yes	0	No	\$ -
19.03	42nd St (Nelson 19) & 110th Ave (Nelson 22) (E)	No	No	No	No	78	Yes	0	No	\$ -
19.04	42nd St (Nelson 19) & US 2	No	Yes	No	No	2215	Yes	0	Yes	\$ -
20.01	19th St (Nelson 20) & ND 1	No	No	No	No	270	Yes	0	No	\$ -
20.02	19th St (Nelson 20) & 113th Ave (Nelson 35)	No	No	No	No	125	Yes	0	No	\$ -
20.03	19th St (Nelson 20) & ND 32	No	No	No	No	748	Yes	0	No	\$ -
23.01	18th St (Nelson 23) & 98th Ave (Griggs 3)	No	No	No	No	40	Unknown	0	No	\$ -
23.02	100th Ave (Nelson 23) & ND 15	No	No	No	No	703	Yes	0	Yes	\$ -
24.01	29th St (Nelson 24) & 103rd Ave (Nelson 24)	No	No	No	No	83	No	0	No	\$ -
24.02	103rd Ave (Nelson 24) & 28th St (Nelson 24)	No	No	No	No	94	No	0	No	\$ -
24.03	28th St (Nelson 24) & ND 1	No	No	No	No	517	No	0	No	\$ -
35.01	18th St (Nelson 35) & 113th Ave (Nelson 35)	Yes	Yes	No	No	109	Unknown	0	No	\$ -
35.02	113th Ave (Nelson 35) & ND 15 (E)	Yes	No	No	Yes	727	Yes	0	No	\$ -
35.03	113th Ave (Nelson 35) & ND 15 (W)	No	Yes	No	No	850	Yes	1	Yes	\$ 824,000
35.04	115th Ave (Nelson 35) & US 2/ND 35	No	Yes	Yes	No	1960	Yes	0	Yes	\$ -

**Nelson County
Rural Intersection Prioritization**

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Priority	Crash Cost
1	18.07	Main St (Nelson 18) & ND 15	★		★	★	★	★	★	★★★★★	\$ -
2	35.03	113th Ave (Nelson 35) & ND 15 (W)		★			★	★	★	★★★★	\$ 824,000
3	35.04	115th Ave (Nelson 35) & US 2/ND 35		★	★		★		★	★★★★	\$ -
4*	18.04	22 1/2 St (Nelson 18) & 23 1/2 St (Nelson 18)	★	★			★			★★★★	\$ -
5*	18.05	22 1/2 St (Nelson 18) & 110th Ave (Nelson 18)	★	★			★			★★★★	\$ -
6	19.01	42nd St (Nelson 19) & ND 1	★	★			★			★★★★	\$ -
7	19.04	42nd St (Nelson 19) & US 2		★			★		★	★★★★	\$ -
8	35.02	113th Ave (Nelson 35) & ND 15 (E)	★			★	★			★★★★	\$ -
9	4.04	34th St (Nelson 4) & ND 1 (N)					★	★		★★★	\$ 12,000
10	4.08	34th St (Nelson 4) & ND 32					★	★		★★	\$ 12,000
11	18.01	21st St (Nelson 18) & ND 1					★	★		★★	\$ 12,000
12	4.03	105th Ave (Nelson 4A) & ND 1 (S)		★			★			★★	\$ -
13	23.02	100th Ave (Nelson 23) & ND 15					★		★	★★	\$ -
14	35.01	18th St (Nelson 35) & 113th Ave (Nelson 35)	★	★						★★	\$ -
15	1.01	51st St (Nelson 1) & ND 1					★			★	\$ -
16	1.02	51st St (Nelson 1) & 110th/111th Ave (Nelson 22)					★			★	\$ -
17	1.03	51st St (Nelson 1) & ND 35					★			★	\$ -
18	1.04	51st St (Nelson 1) & 122nd Ave (Nelson 5)					★			★	\$ -
19	1.05	51st St (Nelson 1) & 125th Ave (Nelson 14)					★			★	\$ -
20	4.05	34th St (Nelson 4) & 110th Ave (Nelson 22)					★			★	\$ -
21	4.06	34th St (Nelson 4) & 113th Ave (Nelson 35) (W)					★			★	\$ -
22	4.07	34th St (Nelson 4) & 115th Ave (Nelson 35) (E)					★			★	\$ -
23	5.02	117th Ave (Nelson 5) & ND 15					★			★	\$ -
24	9.01	49th Ave (Nelson 9) & US 2					★			★	\$ -
25	18.02	21st St (Nelson 18) & 108th Ave (Nelson 18)					★			★	\$ -
26	18.03	108th Ave (Nelson 18) & 22 1/2 St (Nelson 18)					★			★	\$ -
27	18.06	110th Ave (Nelson 18) & 24th St (Nelson 18)					★			★	\$ -
28	19.02	42nd St (Nelson 19) & 111th Ave (Nelson 22) (W)					★			★	\$ -
29	19.03	42nd St (Nelson 19) & 110th Ave (Nelson 22) (E)					★			★	\$ -
30	20.01	19th St (Nelson 20) & ND 1					★			★	\$ -
31	20.02	19th St (Nelson 20) & 113th Ave (Nelson 35)					★			★	\$ -
32	20.03	19th St (Nelson 20) & ND 32					★			★	\$ -
33	4.01	31st St (Nelson 4) & 96th Ave (Nelson 27)									\$ -
34	4.02	31st St (Nelson 4) & 100th Ave (Nelson 23)									\$ -
35	4.09	34th St (Nelson 4) & 49th Ave (Nelson 9)									\$ -
36	5.01	116th Ave (Nelson 5) & 19th St (Nelson 20)									\$ -
37	23.01	18th St (Nelson 23) & 98th Ave (Griggs 3)									\$ -
38	24.01	29th St (Nelson 24) & 103rd Ave (Nelson 24)									\$ -
39	24.02	103rd Ave (Nelson 24) & 28th St (Nelson 24)									\$ -
40	24.03	28th St (Nelson 24) & ND 1									\$ -

Totals Total Stars -- 6 8 2 2 31 4 5
 % That Gets Star -- 15% 20% 5% 5% 78% 10% 13%

	#	%
★★★★★★	0	0%
★★★★★	0	0%
★★★★	1	3%
★★★	2	5%
★★	5	13%
★	6	15%
	18	45%
-	8	20%
	40	100%

Stars	
Skew	- If intersection is skewed at an angle of 20 degrees or greater.
On/Near Curve	- If intersection is on or within 1,000 feet of curve.
Development	- If intersection aerial shows a commercial development with access near intersection.
RR Xing	- If intersection has a railroad crossing on any approach within 500 feet.
Previous STOP (>5 mi)	- If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles
Total Crashes	- If intersection has at least 1 crash.
ADT Cross Product	- If intersection has an ADT cross product > 100,000

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Main St (Nelson 18) & ND 15****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: Yes
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 605
Entering ADT: 895 Minor Entering ADT: 290

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 1

Intersection ID: 18.07

Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**115th Ave (Nelson 35) & US 2/ND 35****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 1763
Entering ADT: 1960 Minor Entering ADT: 198

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,730
Local Match (10% of Total project cost) \$970
Total Project Cost **\$9,700**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**113th Ave (Nelson 35) & ND 15 (W)****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 765
Entering ADT: 850 Minor Entering ADT: 170

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	1.00
Rate (per MVM)	0.6	0.0	0.6

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$7,850.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$7,065
Local Match (10% of Total project cost) \$785
Total Project Cost **\$7,850**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**42nd St (Nelson 19) & ND 1****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 590
Entering ADT: 625 Minor Entering ADT: 35

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

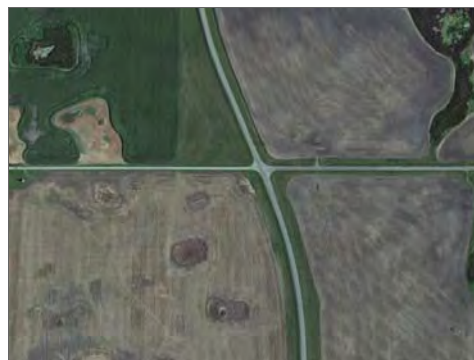
North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,700
Local Match (10% of Total project cost)	\$300
Total Project Cost	\$3,000

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

Page: 4

Intersection ID: 19.01

Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**42nd St (Nelson 19) & US 2****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 2180
Entering ADT: 2215 Minor Entering ADT: 70

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Qualifies for street light. Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$1,850.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$1,665
Local Match (10% of Total project cost) \$185
Total Project Cost **\$1,850**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**113th Ave (Nelson 35) & ND 15 (E)****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 683
Entering ADT: 727 Minor Entering ADT: 45

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$2,300.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,070
Local Match (10% of Total project cost)	\$230
Total Project Cost	\$2,300

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 5

Intersection ID: 35.02

Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**34th St (Nelson 4) & ND 1 (N)****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 500
Entering ADT: 540 Minor Entering ADT: 80

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	1.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**34th St (Nelson 4) & ND 32****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Nelson Major Entering ADT: 238
Entering ADT: 335 Minor Entering ADT: 98

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	1.6	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$3,330
Local Match (10% of Total project cost) \$370
Total Project Cost **\$3,700**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**21st St (Nelson 18) & ND 1****Agency Name: Nelson County****Contact Name: Richard Urvand****Email Address: nelsonhwy@gondtc.com****ND DOT District: 3/6****Telephone Number: 701-322-4433**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: Unknown
Urban/Rural: Rural Flashers: Unknown
County: Nelson Major Entering ADT: 240
Entering ADT: 262 Minor Entering ADT: 22

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	2.1	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$2,300.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,070
Local Match (10% of Total project cost)	\$230
Total Project Cost	\$2,300

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

Page: 8

Intersection ID: 18.01

Date: 10/23/2013

23 USC 409

NDDOT Reserves All Objections

Pembina County
Rural Segment Projects

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	4" Edge Line	6" Edge Lines	Edge Rumble Strip	Project Cost (\$)
1	55.01	Pembina 55	Pembina/Cavalier County Line	Intersection with Delano Ave (in Walhalla)	1.2	****	1.2	0.0	0.0	\$480.00
2	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	0.8	****	0.0	0.8	0.0	\$520.00
3	12.03	Pembina 12	Intersection with ND 5 / 93rd Street	Intersection with 101st Street	7.1	****	0.0	7.1	0.0	\$4,615.00
4	510.01	N/A	Intersection with 3rd Avenue	Intersection with 142nd Avenue	0.5	***	1.0	0.0	0.0	\$400.00
5	1.04	Pembina 1	Bathgate east city limit (could be intersection with 148th Avenue)	Intersection with SB IH 29 Ramps	10.7	***	0.0	10.7	0.0	\$6,955.00
6	12.01	Pembina 12	Pembina / Walsh County Line	Intersection with ND 66	4.0	***	8.0	0.0	0.0	\$3,200.00
7	511.01	N/A	1345 feet south of ND 5	Intersection with 97th Street / Main Street	1.5	***	3.0	0.0	0.0	\$1,200.00
8	502.01	N/A	Intersection with 160th Avenue	1013 feet east of interchange (east of intersection with Old North Dakota 44)	0.6	***	0.0	0.6	0.0	\$390.00
9	514.02	N/A	Pembina north city limit	4670 feet north of ND 59	0.9	***	0.9	0.0	0.0	\$360.00
10	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	14.1	***	0.0	0.0	14.1	\$49,350.00
11	507.01	N/A	Intersection with 160th Avenue	Intersection with 160th Avenue	0.5	**	0.0	0.5	0.0	\$325.00
12	2.01	Pembina 2	*Y* Intersection with ND 5	Intersection with 107th Avenue	10.9	**	0.0	10.9	0.0	\$7,085.00
13	1.02	Pembina 1	Intersection with ND 18 / 144th Avenue	Bathgate west city limit	3.3	**	0.0	3.3	0.0	\$2,145.00
14	3.05	Pembina 3	Intersection with ND 18 / 140th Avenue	Intersection with ND 81 / 148th Avenue	8.0	**	0.0	8.0	0.0	\$5,200.00
15	7.01	Pembina 7	Intersection with 127th Avenue	Intersection with ND 32&66 / 129th Avenue	2.0	**	0.0	2.0	0.0	\$1,300.00
							14.1	43.9	14.1	\$83,525.00

**Pembina County
Rural Segment Listing**

*High Priority Segments Project Sheet Page Number

Project Sheet Page	Corridor	Route	Start	End	Length (miles)	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assessment
	1.01	Pembina 1	Intersection with ND 32	Intersection with ND 18 / 144th Avenue	16.9	5	339	0.06	7.8	0.00	1
13	1.02	Pembina 1	Intersection with ND 18 / 144th Avenue	Bathgate west city limit	3.3	0	265	0.00	7.9	0.00	2
2	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	0.8	0	240	0.00	28.5	3.88	2
5	1.04	Pembina 1	Bathgate east city limit (could be intersection with 148th Avenue)	Intersection with SB IH 29 Ramps	10.7	3	200	0.06	7.1	0.00	2
	1.05	Pembina 1	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	0	80	0.00	12.3	0.00	1
	1.06	Pembina 1	Intersection with NB IH 29 Ramps	Intersection with Old Highway 81	0.1	0	40	0.00	71.5	0.00	1
12	2.01	Pembina 2	"Y" Intersection with ND 5	Intersection with 107th Avenue	10.9	0	363	0.00	5.8	0.00	2
	3.01	Pembina 3	Pembina/Cavalier County Line	Intersection with ND 32 / 130th Avenue	3.0	2	109	0.13	6.7	0.00	1
	3.02	Pembina 3	Intersection with ND 32 / 130th Avenue	Hensel west limit	10.7	0	185	0.00	3.9	0.00	1
	3.03	Pembina 3	Hensel west limit	Hensel east limit	0.5	0	410	0.00	26.3	0.00	1
	3.04	Pembina 3	Hensel east limit	Intersection with ND 18 / 140th Avenue	1.7	0	343	0.00	12.2	0.00	1
14	3.05	Pembina 3	Intersection with ND 18 / 140th Avenue	Intersection with ND 81 / 148th Avenue	8.0	1	264	0.02	5.0	0.00	2
	3.06	Pembina 3	Intersection with ND 81 / 148th Avenue	Intersection with SB IH 29 Ramps	11.7	0	87	0.00	4.9	0.00	2
	3.07	Pembina 3	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.1	0	65	0.00	22.5	0.00	1
	3.08	Pembina 3	Intersection with NB IH 29 Ramps	2624 feet east of interchange	0.5	0	35	0.00	18.1	0.00	1
	4.01	Pembina 4	Pembina / Walsh County Line	Intersection with ND 66	2.0	0	110	0.00	6.0	0.00	2
	4.02	Pembina 4	Intersection with ND 5	Intersection with 101st Street	5.0	0	130	0.00	5.6	0.00	1
	6.01	Pembina 6	Intersection with 92nd Street (on east side of 127th Avenue)	Intersection with ND 5 / 93rd Street	1.0	0	80	0.00	7.0	0.00	1
15	7.01	Pembina 7	Intersection with 127th Avenue	Intersection with ND 32866 / 129th Avenue	2.0	0	198	0.00	6.0	0.00	2
	9.01	Pembina 9	Walhalla east city limit	Intersection with 135th Avenue	7.6	1	458	0.03	6.5	0.26	1
	11.01	Pembina 11	Intersection with ND 81 / 148th Avenue	Interchange with IH 29	12.1	2	90	0.03	6.5	0.00	1
	11.02	Pembina 11	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	1	100	1.24	12.4	0.00	1
	11.03	Pembina 11	Intersection with NB IH 29 Ramps	Intersection with 161st Avenue	0.1	0	180	0.00	26.0	0.00	1
6	12.01	Pembina 12	Pembina / Walsh County Line	Intersection with ND 66	4.0	2	193	0.10	8.0	0.00	2
	12.02	Pembina 12	Intersection with ND 66	Intersection with ND 5 / 93rd Street	9.9	0	130	0.00	5.9	0.20	1
3	12.03	Pembina 12	Intersection with ND 5 / 93rd Street	Intersection with 101st Street	7.1	2	409	0.06	8.1	0.14	1
1	55.01	Pembina 55	Pembina/Cavalier County Line	Intersection with Delano Ave (in Walhalla)	1.2	0	375	0.00	19.6	0.85	2
	55.02	Pembina 55	Intersection with ND 32 / 128th Avenue	Intersection with ND 18 / 144th Avenue	16.0	1	315	0.01	6.0	0.19	1
10	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	14.1	7	366	0.10	5.8	0.28	1
	500.01	N/A	Intersection with ND 66	Intersection with 84th Street	4.0	1	359	0.05	7.2	0.00	1
8	502.01	N/A	Intersection with 160th Avenue	1013 feet east of interchange (east of intersection with Old North Dakota 44)	0.6	2	60	0.73	20.0	0.00	2
	503.01	N/A	Intersection with 133rd Avenue	Intersection with 139th Avenue	7.0	0	70	0.00	4.9	0.00	2
	504.01	N/A	Intersection with 91st Street	Intersection with 92nd Street	1.0	0	29	0.00	5.9	0.00	2
	505.01	N/A	SW to NE curve in trees	Intersection with 127th Avenue	0.5	0	70	0.00	13.5	0.00	0
	505.02	N/A	Intersection with ND 32 / 130th Avenue	Intersection with 133rd Avenue	3.5	0	15	0.00	4.8	0.00	2
	506.01	N/A	1460 feet south of 93rd Street	Intersection with 93rd Street	0.9	0	5	0.00	3.3	0.00	0
11	507.01	N/A	Intersection with 160th Avenue	Intersection with 160th Avenue	0.5	0	20	0.00	22.0	0.00	3
	508.01	N/A	Intersection with 92nd Street (on west side of 127th Avenue)	Intersection with 92nd Street (on east side of 127th Avenue)	0.1	0	80	0.00	22.9	0.00	1
	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	1.4	0	29	0.00	8.0	5.11	0
4	510.01	N/A	Intersection with 3rd Avenue	Intersection with 142nd Avenue	0.5	0	280	0.00	26.0	0.00	2
7	511.01	N/A	1345 feet south of ND 5	Intersection with 97th Street / Main Street	1.5	0	190	0.00	9.0	0.00	2
	514.01	N/A	5280 feet north of 101st Street	Pembina south city limit	4.8	1	75	0.04	5.4	0.62	0
9	514.02	N/A	Pembina north city limit	4670 feet north of ND 59	0.9	0	29	0.00	9.0	2.26	2
	516.01	N/A	Intersection with ND 18 / 144th Avenue	Neché south city limit	0.1	0	500	0.00	19.7	0.00	0
	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	6.0	0	275	0.00	7.8	0.66	1

194.7 31

Edge Risk Legend

- 1 Risky - NEITHER shoulder or good clear zone
- 2 Either a shoulder OR good clear zone
- 3 BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure

150
500

	Access	Lane Departure	Critical Radius Curves
Total	1308	31	15
Total Mileage	194.7	194.7	194.7
Years		5	
Average Density	Total/Mile	6.7	0.03

Pembina County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers
												Edge Risk	ADT
1	55.01	Pembina 55	Pembina/Cavalier County Line	Intersection with Delano Ave (in Walhalla)	1.2	375	★		★	★	★	★★★★	375
2	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	0.8	240	★		★	★	★	★★★★	240
3	12.03	Pembina 12	Intersection with ND 5 / 93rd Street	Intersection with 101st Street	7.1	409	★	★		★		★★★★	409
4	510.01	N/A	Intersection with 3rd Avenue	Intersection with 142nd Avenue	0.5	280	★		★		★	★★★★	280
5	1.04	Pembina 1	Bathgate east city limit (could be intersection with 148th Avenue)	Intersection with SB IH 29 Ramps	10.7	200	★	★			★	★★★★	200
6	12.01	Pembina 12	Pembina / Walsh County Line	Intersection with ND 66	4.0	193	★	★			★	★★★★	193
7	511.01	N/A	1345 feet south of ND 5	Intersection with 97th Street / Main Street	1.5	190	★		★		★	★★★★	190
8	502.01	N/A	Intersection with 160th Avenue	1013 feet east of interchange (east of intersection with Old North Dakota 44)	0.6	60		★	★		★	★★★★	60
9	514.02	N/A	Pembina north city limit	4670 feet north of ND 59	0.9	29			★		★	★★★★	29
10	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	14.1	366	★	★		★		★★★★	366
11	507.01	N/A	Intersection with 160th Avenue	Intersection with 160th Avenue	0.5	20			★		★	★★	20
12	2.01	Pembina 2	"Y" Intersection with ND 5	Intersection with 107th Avenue	10.9	363	★				★	★★★★	363
13	1.02	Pembina 1	Intersection with ND 18 / 144th Avenue	Bathgate west city limit	3.3	265	★				★	★★	265
14	3.05	Pembina 3	Intersection with ND 18 / 140th Avenue	Intersection with ND 81 / 148th Avenue	8.0	264	★				★	★★	264
15	7.01	Pembina 7	Intersection with 127th Avenue	Intersection with ND 32&66 / 129th Avenue	2.0	198	★				★	★★	198
16	9.01	Pembina 9	Walhalla east city limit	Intersection with 135th Avenue	7.6	458	★			★		★★	458
17	3.03	Pembina 3	Hensel west limit	Hensel east limit	0.5	410	★		★			★★	410
18	500.01	N/A	Intersection with ND 66	Intersection with 84th Street	4.0	359		★				★★	359
19	3.04	Pembina 3	Hensel east limit	Intersection with ND 18 / 140th Avenue	1.7	343	★		★			★★	343
20	1.01	Pembina 1	Intersection with ND 32	Intersection with ND 18 / 144th Avenue	16.9	339	★	★				★★	339
21	55.02	Pembina 55	Intersection with ND 32 / 128th Avenue	Intersection with ND 18 / 144th Avenue	16.0	315	★					★★	315
22	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	6.0	275	★			★		★★	275
23	11.03	Pembina 11	Intersection with NB IH 29 Ramps	Intersection with 161st Avenue	0.1	180	★		★			★★	180
24	11.02	Pembina 11	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	100		★	★			★★	100
25	516.01	N/A	Intersection with ND 18 / 144th Avenue	Neché south city limit	0.1	500	★		★			★★	500
26	514.01	N/A	5280 feet north of 101st Street	Pembina south city limit	4.8	75		★		★		★★	75
27	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	1.4	29			★	★		★★	29
28	4.01	Pembina 4	Pembina / Walsh County Line	Intersection with ND 66	2.0	110					★	★	110
29	3.06	Pembina 3	Intersection with ND 81 / 148th Avenue	Intersection with SB IH 29 Ramps	11.7	87					★	★	87
30	503.01	N/A	Intersection with 133rd Avenue	Intersection with 139th Avenue	7.0	70					★	★	70
31	504.01	N/A	Intersection with 91st Street	Intersection with 92nd Street	1.0	29					★	★	29
32	505.02	N/A	Intersection with ND 32 / 130th Avenue	Intersection with 133rd Avenue	3.5	15					★	★	15
33	3.02	Pembina 3	Intersection with ND 32 / 130th Avenue	Hensel west limit	10.7	185	★					★	185
34	12.02	Pembina 12	Intersection with ND 66	Intersection with ND 5 / 93rd Street	9.9	130				★		★	130
35	3.01	Pembina 3	Pembina/Cavalier County Line	Intersection with ND 32 / 130th Avenue	3.0	109						★	109
36	11.01	Pembina 11	Intersection with ND 81 / 148th Avenue	Interchange with IH 29	12.1	90		★				★	90
37	1.05	Pembina 1	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	80			★			★	80
38	508.01	N/A	Intersection with 92nd Street (on west side of 127th Avenue)	Intersection with 92nd Street (on east side of 127th Avenue)	0.1	80			★			★	80
39	3.07	Pembina 3	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.1	65			★			★	65
40	1.06	Pembina 1	Intersection with NB IH 29 Ramps	Intersection with Old Highway 81	0.1	40			★			★	40
41	3.08	Pembina 3	Intersection with NB IH 29 Ramps	2624 feet east of interchange	0.5	35			★			★	35
42	505.01	N/A	SW to NE curve in trees	Intersection with 127th Avenue	0.5	70			★			★	70
43	4.02	Pembina 4	Intersection with ND 5	Intersection with 101st Street	5.0	130							130
44	6.01	Pembina 6	Intersection with 92nd Street (on east side of 127th Avenue)	Intersection with ND 5 / 93rd Street	1.0	80							80
45	506.01	N/A	1460 feet south of 93rd Street	Intersection with 93rd Street	0.9	5							5

Total Stars -- 22
% That Gets Star -- 49%

Stars

#	%	%
★★★★★	0	0%
★★★★	3	7%
★★★	7	16%
★★	17	38%
★	15	33%
	3	7%
45	100%	100%

ADT Range If segment has an ADT in the range of most at risk ADT based on Northeast totals. (150 < ADT < 500)
Lane Departure Density If segment has higher lane departure density than the Northeast average (0.032).
Access Density If segment has access density than the nationwide average (8).
Curve Critical Radius Density If segment has higher density of curves with critical radius than the Northeast average (0.084).
Edge Risk Assessment Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 55 from Pembina/Cavalier County Line to Intersection with Delano Ave (in Walhalla)**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Pembina/Cavalier County Line
End: Intersection with Delano Ave
Facility Type: 2-Lane
ADT: 375
Road Type Rural Paved
County Road Pembina 55

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 1.2
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	375	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	19.6	8.0	★
Curve Critical Radius Density	0.853	0.084	★
Edge Risk	2	2 or 3	★

★★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Noise sensitive. Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	1.2	\$480	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$432
Local Match (10% of Total project cost)	\$48
Total Project Cost	\$480

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 1
Segment ID: 55.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 1 from Bathgate west city limit to Bathgate east city limit****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Bathgate west city limit
End: Bathgate east city limit
Facility Type: 2-Lane
ADT: 240
Road Type Rural Paved
County Road Pembina 1

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 0.8
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	240	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	28.5	8.0	★
Curve Critical Radius Density	3.880	0.084	★
Edge Risk	2	2 or 3	★

★★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Consider combining projects with segments 1.02 and 1.04. Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 2
Segment ID: 1.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 12 from Intersection with ND 5 / 93rd Street to Intersection with 101st Street**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with ND 5 / 93rd St
End: Intersection with 101st Street
Facility Type: 2-Lane
ADT: 409
Road Type Rural Paved
County Road Pembina 12

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 7.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	5	2	0
Density (per mile per year)	0.14	0.06	0.00
Rate (per MVM)	0.94	0.38	0.00

	Value	Critical	Road
ADT Range	409	150sADT≤500	★
RD Density	0.057	0.032	★
Access Density	8.1	8.0	★
Curve Critical Radius Density	0.141	0.084	★
Edge Risk	1	2 or 3	★ ★ ★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 3
Segment ID: 12.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**N/A from Intersection with 3rd Avenue to Intersection with 142nd Avenue****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with 3rd Avenue
End: Intersection with 142nd Avenue
Facility Type: 2-Lane
ADT: 280
Road Type Rural Paved
County Road N/A

Lane Width: 1
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 0.5
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	280	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	26.0	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge line cost includes 4" centerline marking. Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	1.0	\$400	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$360
Local Match (10% of Total project cost)	\$40
Total Project Cost	\$400

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 4
Segment ID: 510.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 1 from Bathgate east city limit (could be intersection with 148th Avenue) to Intersection with SB IH 29 Ramps**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Bathgate east city limit (could
End: Intersection with SB IH 29 Ra
Facility Type: 2-Lane
ADT: 200
Road Type Rural Paved
County Road Pembina 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 10.7
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

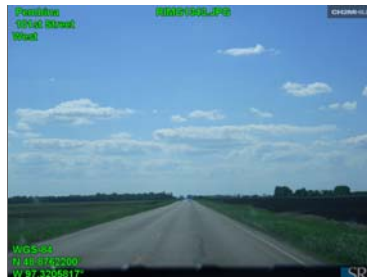
North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	5	3	0
Density (per mile per year)	0.09	0.06	0.00
Rate (per MVM)	1.28	0.77	0.00

	Value	Critical	Road
ADT Range	200	150sADT≤500	★
RD Density	0.056	0.032	★
Access Density	7.1	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★

★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 5
Segment ID: 1.04
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pembina 12 from Pembina / Walsh County Line to Intersection with ND 66

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Pembina / Walsh County Line
End: Intersection with ND 66
Facility Type: 2-Lane
ADT: 193
Road Type Rural Paved
County Road Pembina 12

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 4.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	2	1
Density (per mile per year)	0.10	0.10	0.05
Rate (per MVM)	1.42	1.42	0.71

	Value	Critical	Road
ADT Range	193	150sADT≤500	★
RD Density	0.100	0.032	★
Access Density	8.0	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge line cost includes 4" centerline marking. Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	8.0	\$3,200	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,880
Local Match (10% of Total project cost)	\$320
Total Project Cost	\$3,200

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 6
Segment ID: 12.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**N/A from 1345 feet south of ND 5 to Intersection with 97th Street / Main Street****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: 1345 feet south of ND 5
End: Intersection with 97th Street /
Facility Type: 2-Lane
ADT: 190
Road Type Rural Paved
County Road N/A

Lane Width: '
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 1.5
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	190	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	9.0	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge line cost includes 4" centerline marking. Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	3.0	\$1,200	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,080
Local Match (10% of Total project cost)	\$120
Total Project Cost	\$1,200

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 7
Segment ID: 511.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**N/A from Intersection with 160th Avenue to 1013 feet east of interchange (east of intersection with Old North Dakota 44)**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with 160th Avenue
End: 1013 feet east of interchange
Facility Type: 2-Lane
ADT: 60
Road Type Rural Paved
County Road N/A

Lane Width: 1'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 0.6
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	2	0
Density (per mile per year)	0.67	0.67	0.00
Rate (per MVM)	30.44	30.44	0.00

	Value	Critical	Road
ADT Range	60	150sADT≤500	
RD Density	0.727	0.032	★
Access Density	20.0	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 8
Segment ID: 502.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**N/A from Pembina north city limit to 4670 feet north of ND 59****Agency Name: Pembina County****ND DOT District: 6****Contact Name: Troy Kittelson****Telephone Number: 701-265-4208****Email Address: pembhwy@nd.gov**

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Pembina north city limit
End: 4670 feet north of ND 59
Facility Type: 2-Lane
ADT: 29
Road Type Rural Paved
County Road N/A

Lane Width: '
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 0.9
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	29	150sADT≤500	
RD Density	0.000	0.032	
Access Density	9.0	8.0	★
Curve Critical Radius Density	2.259	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	0.9	\$360	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$324
Local Match (10% of Total project cost)	\$36
Total Project Cost	\$360

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 9
Segment ID: 514.02
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 55 from Intersection with ND 18 / 144th Avenue to Interchange with IH 29 SB Ramps**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with ND 18 / 144th
End: Interchange with IH 29 SB Ramps
Facility Type: 2-Lane
ADT: 366
Road Type Rural Paved
County Road Pembina 55

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 14.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	16	7	0
Density (per mile per year)	0.23	0.10	0.00
Rate (per MVM)	1.70	0.74	0.00

	Value	Critical	Road
ADT Range	366	150sADT≤500	★
RD Density	0.099	0.032	★
Access Density	5.8	8.0	
Curve Critical Radius Density	0.283	0.084	★
Edge Risk	1	2 or 3	

★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	14.1	\$49,350	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$44,415
Local Match (10% of Total project cost)	\$4,935
Total Project Cost	\$49,350

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

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Segment ID: 55.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**N/A from Intersection with 160th Avenue to Intersection with 160th Avenue****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with 160th Avenue
End: Intersection with 160th Avenue
Facility Type: 2-Lane
ADT: 20
Road Type Rural Paved
County Road N/A

Lane Width: '
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 0.5
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	1	0	0
Density (per mile per year)	0.40	0.00	0.00
Rate (per MVM)	54.79	0.00	0.00

	Value	Critical	Road
ADT Range	20	150sADT≤500	
RD Density	0.000	0.032	
Access Density	22.0	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	3	2 or 3	★
			★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 11
Segment ID: 507.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 2 from "Y" Intersection with ND 5 to Intersection with 107th Avenue**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: "Y" Intersection with ND 5
End: Intersection with 107th Avenue
Facility Type: 2-Lane
ADT: 363
Road Type Rural Paved
County Road Pembina 2

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 10.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	0	1
Density (per mile per year)	0.04	0.00	0.02
Rate (per MVM)	0.28	0.00	0.14

	Value	Critical	Road
ADT Range	363	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	5.8	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 12
Segment ID: 2.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 1 from Intersection with ND 18 / 144th Avenue to Bathgate west city limit**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with ND 18 / 144th
End: Bathgate west city limit
Facility Type: 2-Lane
ADT: 265
Road Type Rural Paved
County Road Pembina 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 3.3
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	265	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	7.9	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 13
Segment ID: 1.02
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 3 from Intersection with ND 18 / 140th Avenue to Intersection with ND 81 / 148th Avenue**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with ND 18 / 140t
End: Intersection with ND 81 / 148t
Facility Type: 2-Lane
ADT: 264
Road Type Rural Paved
County Road Pembina 3

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 8.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

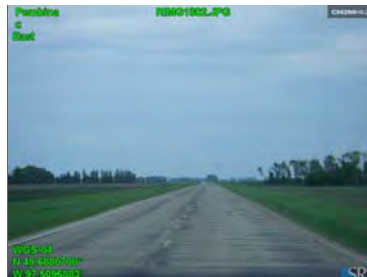
Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.05	0.03	0.00
Rate (per MVM)	0.52	0.26	0.00

	Value	Critical	Road
ADT Range	264	150sADT≤500	★
RD Density	0.025	0.032	
Access Density	5.0	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 14
Segment ID: 3.05
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Pembina 7 from Intersection with 127th Avenue to Intersection with ND 32&66 / 129th Avenue****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with 127th Avenue
End: Intersection with ND 32&66 /
Facility Type: 2-Lane
ADT: 198
Road Type Rural Paved
County Road Pembina 7

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 2.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	1	0	0
Density (per mile per year)	0.10	0.00	0.00
Rate (per MVM)	1.38	0.00	0.00

	Value	Critical	Road
ADT Range	198	150sADT≤500	★
RD Density	0.000	0.032	
Access Density	6.0	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★ ★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$0
Local Match (10% of Total project cost)	\$0
Total Project Cost	\$0

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 15
Segment ID: 7.01
Date: 10/23/2013

Pembina County Curves

Curve Count	ID	Corridor	Segment	Start	End	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes			Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
									Total	K	A							
1	001A	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	No	No	No	-	-	-	555	240	No	Yes	Low	**	No
2	001B	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	No	No	No	-	-	-	215	240	No	No	Low	*	No
3	001C	1.03	Pembina 1	Bathgate west city limit	Bathgate east city limit	No	No	No	-	-	-	150	240	No	Yes	Low	*	No
4	009A	9.01	Pembina 9	Walhalla east city limit	Intersection with 135th Avenue	Yes	No	No	2	-	-	785	458	No	No	High	**	Curve Advisory Sign
5	009B	9.01	Pembina 9	Walhalla east city limit	Intersection with 135th Avenue	No	No	No	1	-	-	540	458	No	No	High	**	No
6	012A	12.02	Pembina 12	Intersection with ND 66	Intersection with ND 5 / 93rd Street	Yes	No	No	-	-	-	1100	130	No	No	High	*	Curve Advisory Sign
7	012B	12.02	Pembina 12	Intersection with ND 66	Intersection with ND 5 / 93rd Street	Yes	No	No	-	-	-	1500	130	No	No	High	*	Curve Advisory Sign
8	012C	12.03	Pembina 12	Intersection with ND 5 / 93rd Street	Intersection with 101st Street	Yes	No	No	-	-	-	2050	409	No	No	High	*	Curve Advisory Sign
9	055A	55.01	Pembina 55	Pembina/Cavalier County Line	Intersection with Delano Ave (in Walhalla)	Yes	No	No	-	-	-	1040	375	No	No	Low	**	Reverse Curve
10	055B	55.02	Pembina 55	Intersection with ND 32 / 128th Avenue	Intersection with ND 18 / 144th Avenue	Yes	No	No	-	-	-	790	315	Yes	No	High	**	Winding Road
11	055C	55.02	Pembina 55	Intersection with ND 32 / 128th Avenue	Intersection with ND 18 / 144th Avenue	Yes	No	No	1	-	-	1100	315	No	No	High	*	Winding Road
12	055D	55.02	Pembina 55	Intersection with ND 32 / 128th Avenue	Intersection with ND 18 / 144th Avenue	Yes	No	No	-	-	-	785	315	No	No	High	*	Winding Road
13	055E	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	Yes	No	Yes	1	-	-	575	366	Yes	Yes	High	****	Curve Advisory Sign
14	055F	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	Yes	No	Yes	4	1	-	575	366	Yes	Yes	High	*****	Curve Advisory Sign
15	055G	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	Yes	No	Yes	-	-	-	825	366	No	No	High	**	Reverse Curve
16	055H	55.03	Pembina 55	Intersection with ND 18 / 144th Avenue	Interchange with IH 29 SB Ramps	Yes	No	Yes	-	-	-	1000	366	No	No	High	**	Reverse Curve
17	509A	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	240	29	No	No	High	*	No Photos/Streetview
18	509B	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	200	29	No	No	High	*	No Photos/Streetview
19	509C	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	135	29	No	Yes	High	*	No Photos/Streetview
20	509D	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	90	29	Yes	Yes	High	**	No Photos/Streetview
21	509E	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	245	29	No	No	High	*	No Photos/Streetview
22	509F	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	145	29	No	Yes	High	*	No Photos/Streetview
23	509G	509.01	N/A	Intersection with ND 5 / 93rd Street	End of road	No Photos/Streetview			-	-	-	265	29	Yes	Yes	High	**	No Photos/Streetview
24	514A	514.01	N/A	5280 feet north of 101st Street	Pembina south city limit	No Photos/Streetview			-	-	-	3800	75	Yes	No	High	*	No Photos/Streetview
25	514B	514.01	N/A	5280 feet north of 101st Street	Pembina south city limit	No Photos/Streetview			-	-	-	2220	75	Yes	No	High	*	No Photos/Streetview
26	514C	514.01	N/A	5280 feet north of 101st Street	Pembina south city limit	No Photos/Streetview			-	-	-	2100	75	No	No	High	*	No Photos/Streetview
27	514D	514.02	N/A	Pembina north city limit	4670 feet north of ND 59	No Photos/Streetview			-	-	-	1600	29	No	No	Low	*	No Photos/Streetview
28	514E	514.02	N/A	Pembina north city limit	4670 feet north of ND 59	No Photos/Streetview			-	-	-	2900	29	No	No	Low	*	No Photos/Streetview
29	518A	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	Yes	No	No	-	-	-	1800	275	No	No	High	*	Winding Road
30	518B	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	Yes	No	Yes	-	-	-	1200	275	Yes	No	High	**	Winding Road
31	518C	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	Yes	No	Yes	-	-	-	575	275	Yes	No	High	**	Winding Road
32	518D	518.01	N/A	Intersection with 101st Street	Intersection with 107th Street	Yes	No	Yes	-	-	-	1150	275	No	No	High	*	Winding Road

Stars	Total	
	#	%
*****	1	3%
****	1	3%
***	0	0%
**	11	34%
*	10	31%
	9	28%
	32	100%

Critical Ranges	Min	Max
Radius	500	1,200
ADT	350	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 1 from Bathgate west city limit to Bathgate east city limit**

Agency Name: Pembina County

Contact Name: Troy Kittelson

Email Address: pembhwy@nd.gov

ND DOT District: 6

Telephone Number: 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Bathgate west city limit
End: Bathgate east city limit
Facility Type: 2-Lane
ADT: 240
Road Type Rural Paved
County Road Pembina 1

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Gravel
Length (miles): 0.8
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
001A	0	0	555	240	No	Yes	★★	-	x	Chevron	-	-	x	40
001B	0	0	215	240	No	No		x	-	Chevron	-	-	x	Inspect Curve
001C	0	0	150	240	No	Yes	★	x	-	Chevron	-	-	x	Inspect Curve

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	3	\$9,900	Notes - Segment projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	3	\$2,400	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$12,300	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$11,070
Local Match (10% of Total project cost) \$1,230
Total Project Cost **\$12,300**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 9 from Walhalla east city limit to Intersection with 135th Avenue**

Agency Name: Pembina County

ND DOT District: 6

Contact Name: Troy Kittelson

Telephone Number: 701-265-4208

Email Address: pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Walhalla east city limit
End: Intersection with 135th Avenue
Facility Type: 2-Lane
ADT: 458
Road Type Rural Paved
County Road Pembina 9

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 7.6
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
009A	0	0	765	458	No	No	★★	-	x	Chevron	-	-	x	45
009B	0	0	540	458	No	No	★★	-	x	Chevron	-	-	x	40

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$8,200	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$7,380
Local Match (10% of Total project cost)	\$820
Total Project Cost	\$8,200

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 12 from Intersection with ND 66 to Intersection with ND 5 / 93rd Street**

Agency Name: Pembina County

Contact Name: Troy Kittelson

Email Address: pembhwy@nd.gov

ND DOT District: 6

Telephone Number: 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with ND 66
End: Intersection with ND 5 / 93rd Street
Facility Type: 2-Lane
ADT: 130
Road Type Rural Paved
County Road Pembina 12

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 9.9
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
012A	0	0	1100	130	No	No	★	-	x	Chevron	-	-	x	-
012B	0	0	1500	130	No	No		x	-	Chevron	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	Notes - Intersection projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$7,400	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$6,660
Local Match (10% of Total project cost) \$740
Total Project Cost **\$7,400**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 55 from Pembina/Cavalier County Line to Intersection with Delano Ave (in Walhalla)**

Agency Name: Pembina County

Contact Name: Troy Kittelson

Email Address: pembhwy@nd.gov

ND DOT District: 6

Telephone Number: 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Pembina/Cavalier County Line
End: Intersection with Delano Ave (in Walhalla)
Facility Type: 2-Lane
ADT: 375
Road Type Rural Paved
County Road Pembina 55

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 1.2
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
055A	0	0	1040	375	No	No	★★	-	x	Chevron	-	-	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$4,100	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$3,690
Local Match (10% of Total project cost) \$410
Total Project Cost **\$4,100**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 55 from Intersection with ND 32 / 128th Avenue to Intersection with ND 18 / 144th Avenue**

Agency Name: Pembina County

Contact Name: Troy Kittelson

Email Address: pembhwy@nd.gov

ND DOT District: 6

Telephone Number: 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with ND 32 / 128th Avenue
End: Intersection with ND 18 / 144th Avenue
Facility Type: 2-Lane
ADT: 315
Road Type Rural Paved
County Road Pembina 55

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 16.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
055B	0	0	790	315	Yes	No	★★	-	x	Chevron	-	-	x	45
055C	0	0	1100	315	No	No	★	-	x	Chevron	-	-	x	-
055D	0	0	785	315	No	No	★	-	x	Chevron	-	-	x	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	3	\$9,900	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	3	\$2,400	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$12,300	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$11,070
Local Match (10% of Total project cost) \$1,230
Total Project Cost **\$12,300**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Pembina 55 from Intersection with ND 18 / 144th Avenue to Interchange with IH 29 SB Ramps**

Agency Name: Pembina County

Contact Name: Troy Kittelson

Email Address: pembhwy@nd.gov

ND DOT District: 6

Telephone Number: 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with ND 18 / 144th Avenue
End: Interchange with IH 29 SB Ramps
Facility Type: 2-Lane
ADT: 366
Road Type Rural Paved
County Road Pembina 55

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 14.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
055E	0	0	575	366	Yes	Yes	★★★★	x	x	Chevron	Inside/Outside	Inside/Outside	x	40
055F	1	0	575	366	Yes	Yes	★★★★★	x	x	Chevron	Inside/Outside	Inside/Outside	x	40
055G	0	0	825	366	No	No	★★	x	x	Chevron	Inside/Outside	Inside/Outside	x	45
055H	0	0	1000	366	No	No	★★	x	x	Chevron	Inside/Outside	Inside/Outside	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	4	\$13,200	Notes - Segment and intersection projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	4	\$3,200	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.4 miles	\$1,240	
Shoulder Paving	Proactive	\$37,000 per mile	.4 miles	\$15,297	
				\$32,937	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$29,644
Local Match (10% of Total project cost) \$3,294
Total Project Cost **\$32,937**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on N/A from Intersection with 101st Street to Intersection with 107th Street****Agency Name:** Pembina County**ND DOT District:** 6**Contact Name:** Troy Kittelson**Telephone Number:** 701-265-4208**Email Address:** pembhwy@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with 101st Street
End: Intersection with 107th Street
Facility Type: 2-Lane
ADT: 275
Road Type Rural Paved
County Road N/A

Lane Width: '
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: Paved
Length (miles): 6.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
518A	0	0	1800	275	No	No		x	-	Chevron	-	-	-	-
518B	0	0	1200	275	Yes	No	★★	x	x	Chevron	-	-	-	-
518C	0	0	575	275	Yes	No	★★	x	x	Chevron	-	-	x	40
518D	0	0	1150	275	No	No	★	x	x	Chevron	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,300 per curve	4	\$13,200	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$14,000	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$12,600
Local Match (10% of Total project cost) \$1,400
Total Project Cost **\$14,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Pembina County
Summary of Rural Intersection Projects

Page	Intersection ID	Description	Risk Ranking	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Project Cost (\$)
1	2.01	141st Ave NE (Pembina 2) & Division Ave NE (ND 5)	★★★★★	x	-	x	\$51,850
2	1.04	101st St NE (Pembina 1) & 141st Ave NE (Pembina 2)	★★★	-	x	x	\$9,700
3	6.02	ND 5 & 127th Ave NE (Pembina 6)	★★★	x	x	x	\$59,700
4	3.07	89th St NE (Pembina 3) & Interstate 29 NB Ramps	★★★	-	-	x	\$3,700
5	1.01	101st St NE (Pembina 1) & 127th Ave NE	★★★	-	x	x	\$9,250
6	1.05	101st St NE (Pembina 1) & 144th Ave NE (ND 18)	★★★	-	x	x	\$9,700
7	1.08	101st St NE (Pembina 1) & Interstate 29 NB Ramps	★★★	-	-	x	\$3,700
8	502.01	86th St NE (Pembina 502) & Interstate 29 SB Ramps	★★★	-	-	x	\$3,700
9	1.03	101st St NE (Pembina 1) & 137th Ave NE (Pembina 12)	★★★	-	x	x	\$9,000
10	11.01	84th St NE (Pembina 11) & US 81	★★★	-	-	x	\$3,000
11	11.03	84th St NE (Pembina 11) & Interstate 29 NB Ramps	★★★	-	-	x	\$3,700
12	12.03	ND 5 (W) & 137th Ave NE (Pembina 12)	★★★	-	x	x	\$9,000
13	12.04	ND 5 (E) & 137th Ave NE (Pembina 12)	★★★	-	x	x	\$9,000
14	55.05	107th St NE (Pembina 55) & Interstate 29 SB Ramps	★★★	x	x	x	\$65,700
15	500.01	ND 66 & 161st Ave NE (Pembina 500)	★★★	-	-	x	\$7,400
16	502.02	86th St NE (Pembina 502) & Interstate 29 NB Ramps	★★★	-	-	x	\$3,700
				3	8	17	\$261,800

**Pembina County
Rural Intersection Listing**

Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 100,000	Crash Cost
1.01	101st St NE (Pembina 1) & 127th Ave NE	No	No	No	No	1117	Yes	1	Yes	\$ 12,000
1.02	101st St NE (Pembina 1) & 135th Ave NE (Pembina 518)	No	No	No	No	645	Yes	0	No	\$ -
1.03	101st St NE (Pembina 1) & 137th Ave NE (Pembina 12)	No	No	Yes	No	680	Yes	0	Yes	\$ -
1.04	101st St NE (Pembina 1) & 141st Ave NE (Pembina 2)	No	No	No	No	670	Yes	1	Yes	\$ 412,000
1.05	101st St NE (Pembina 1) & 144th Ave NE (ND 18)	No	No	No	No	740	Yes	1	Yes	\$ 12,000
1.06	101st St NE (Pembina 1) & 152nd Ave NE (Pembina 4)	No	No	No	No	285	Yes	1	No	\$ 12,000
1.07	101st St NE (Pembina 1) & Interstate 29 SB Ramps	No	Yes	No	No	140	Yes	0	No	\$ -
1.08	101st St NE (Pembina 1) & Interstate 29 NB Ramps	Yes	No	No	No	100	Yes	1	No	\$ 12,000
2.01	141st Ave NE (Pembina 2) & Division Ave NE (ND 5)	Yes	Yes	Yes	No	2463	Yes	0	Yes	\$ -
2.02	141st Ave NE (Pembina 2) & 107th St NE (Pembina 55)	No	No	No	No	490	Yes	0	No	\$ -
3.01	88th St NE (Pembina 3) & ND 32	No	No	No	No	603	Yes	0	No	\$ -
3.02	88th St NE (Pembina 3) & 135th Ave NE (Pembina 12)	No	No	No	No	435	Yes	0	No	\$ -
3.03	88th St NE (Pembina 3) & 140th Ave NE (ND 18)	No	No	No	No	1200	Yes	0	Yes	\$ -
3.04	88th St NE (Pembina 3) & 148th Ave NE (US 81) SOUTH	No	No	No	No	385	Yes	0	No	\$ -
3.05	89th St NE (Pembina 3) & 148th Ave NE (US 81) NORTH	No	No	No	No	482	Yes	0	No	\$ -
3.06	89th St NE (Pembina 3) & Interstate 29 SB Ramps	Yes	No	No	No	110	Yes	0	No	\$ -
3.07	89th St NE (Pembina 3) & Interstate 29 NB Ramps	Yes	No	No	No	70	Yes	1	No	\$ 91,000
4.01	ND 66 & 155th Ave NE (Pembina 4)	No	No	No	No	465	Yes	1	No	\$ 12,000
4.02	ND 5 & 152nd Ave NE (Pembina 4)	No	No	No	No	957	Yes	1	No	\$ 12,000
6.01	92nd St NE (Pembina 6) & 127th Ave NE	No	No	No	No	90	No	0	No	\$ -
6.02	ND 5 & 127th Ave NE (Pembina 6)	No	No	No	No	1275	Yes	1	Yes	\$ 136,000
7.01	81st St NE (Pembina 7) & ND 32	No	No	No	No	862	Yes	1	No	\$ 12,000
9.01	104th St NE (Pembina 9) & 135th Ave NE (Pembina 12)	No	No	No	No	417	Yes	0	No	\$ -
11.01	84th St NE (Pembina 11) & US 81	Yes	Yes	No	No	635	Yes	0	No	\$ -
11.02	84th St NE (Pembina 11) & Interstate 29 SB Ramps	No	Yes	No	No	133	Yes	0	No	\$ -
11.03	84th St NE (Pembina 11) & Interstate 29 NB Ramps	No	Yes	No	Yes	180	Yes	0	No	\$ -
11.04	84th St NE (Pembina 11) & 161st Ave NE	No	No	No	Yes	245	No	0	No	\$ -
12.01	ND 66 & 135th Ave NE (Pembina 12)	No	No	No	No	510	Yes	0	No	\$ -
12.02	91st St NE & 135th Ave NE (Pembina 12)	No	No	No	No	1495	Yes	0	Yes	\$ -
12.03	ND 5 (W) & 137th Ave NE (Pembina 12)	No	Yes	No	No	1445	Yes	0	Yes	\$ -
12.04	ND 5 (E) & 137th Ave NE (Pembina 12)	No	No	Yes	No	1787	Yes	0	Yes	\$ -
55.02	107th St NE (Pembina 55) & ND 32	No	No	No	No	717	Yes	1	No	\$ 12,000
55.03	107th St NE (Pembina 55) & 135th Ave NE (Pembina 55)	No	No	No	No	415	Yes	0	No	\$ -
55.04	107th St NE (Pembina 55) & ND 18	No	No	No	No	955	Yes	0	Yes	\$ -
55.05	107th St NE (Pembina 55) & Interstate 29 SB Ramps	No	Yes	No	No	1938	Yes	0	Yes	\$ -
500.01	ND 66 & 161st Ave NE (Pembina 500)	No	No	Yes	Yes	3215	No	0	Yes	\$ -
502.01	86th St NE (Pembina 502) & Interstate 29 SB Ramps	No	Yes	No	No	85	Yes	1	No	\$ 12,000
502.02	86th St NE (Pembina 502) & Interstate 29 NB Ramps	Yes	Yes	No	No	103	Yes	0	No	\$ -
503.01	91st St NE (Pembina 503) & 133rd Ave NE	No	No	No	No	45	No	0	No	\$ -
504.01	92nd St NE (Pembina 504) & 133rd Ave NE	No	No	No	No	19	No	0	No	\$ -
505.01	92nd St NE (Pembina 505) & ND 32	No	No	No	No	555	Yes	0	No	\$ -
506.01	93rd St NE & 160th Ave NE	Yes	No	No	No	22	No	0	No	\$ -
507.01	93rd St NE & Interstate 29 SB Ramps	No	Yes	No	No	40	Yes	0	No	\$ -
507.02	93rd St NE & Interstate 29 NB Ramps	No	Yes	No	No	55	Yes	0	No	\$ -
509.01	ND 5 & 135th 1/2 Ave NE	No	Yes	No	No	1137	No	0	No	\$ -
511.01	ND 5 160th 1/2 Ave NE	No	No	No	Yes	498	Yes	0	No	\$ -
516.01	7th St & ND 18	Yes	No	No	No	775	No	0	Yes	\$ -

**Pembina County
Rural Intersection Prioritization**

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 100,000	Priority	Crash Cost
1	2.01	141st Ave NE (Pembina 2) & Division Ave NE (ND 5)	*	*	*		*	*	*	*****	\$ -
2	1.04	101st St NE (Pembina 1) & 141st Ave NE (Pembina 2)					*	*	*	***	\$ 412,000
3	6.02	ND 5 & 127th Ave NE (Pembina 6)					*	*	*	***	\$ 136,000
4	3.07	89th St NE (Pembina 3) & Interstate 29 NB Ramps	*				*	*	*	***	\$ 91,000
5	1.01	101st St NE (Pembina 1) & 127th Ave NE					*	*	*	***	\$ 12,000
6	1.05	101st St NE (Pembina 1) & 144th Ave NE (ND 18)					*	*	*	***	\$ 12,000
7	1.08	101st St NE (Pembina 1) & Interstate 29 NB Ramps	*				*	*	*	***	\$ 12,000
8	502.01	86th St NE (Pembina 502) & Interstate 29 SB Ramps		*			*	*	*	***	\$ 12,000
9	1.03	101st St NE (Pembina 1) & 137th Ave NE (Pembina 12)			*		*	*	*	***	\$ -
10	11.01	84th St NE (Pembina 11) & US 81	*	*			*	*	*	***	\$ -
11	11.03	84th St NE (Pembina 11) & Interstate 29 NB Ramps		*		*	*	*	*	***	\$ -
12	12.03	ND 5 (W) & 137th Ave NE (Pembina 12)		*			*	*	*	***	\$ -
13	12.04	ND 5 (E) & 137th Ave NE (Pembina 12)			*		*	*	*	***	\$ -
14	55.05	107th St NE (Pembina 55) & Interstate 29 SB Ramps		*			*	*	*	***	\$ -
15	500.01	ND 66 & 161st Ave NE (Pembina 500)			*	*		*	*	***	\$ -
16	502.02	86th St NE (Pembina 502) & Interstate 29 NB Ramps	*	*			*	*	*	***	\$ -
17	1.06	101st St NE (Pembina 1) & 152nd Ave NE (Pembina 4)					*	*	*	**	\$ 12,000
18	4.01	ND 66 & 155th Ave NE (Pembina 4)					*	*	*	**	\$ 12,000
19	4.02	ND 5 & 152nd Ave NE (Pembina 4)					*	*	*	**	\$ 12,000
20	7.01	81st St NE (Pembina 7) & ND 32					*	*	*	**	\$ 12,000
21	55.02	107th St NE (Pembina 55) & ND 32					*	*	*	**	\$ 12,000
22	1.07	101st St NE (Pembina 1) & Interstate 29 SB Ramps		*			*	*	*	**	\$ -
23	3.03	88th St NE (Pembina 3) & 140th Ave NE (ND 18)					*	*	*	**	\$ -
24	3.06	89th St NE (Pembina 3) & Interstate 29 SB Ramps	*				*	*	*	**	\$ -
25	11.02	84th St NE (Pembina 11) & Interstate 29 SB Ramps		*			*	*	*	**	\$ -
26	12.02	91st St NE & 135th Ave NE (Pembina 12)					*	*	*	**	\$ -
27	55.04	107th St NE (Pembina 55) & ND 18					*	*	*	**	\$ -
28	507.01	93rd St NE & Interstate 29 SB Ramps		*			*	*	*	**	\$ -
29	507.02	93rd St NE & Interstate 29 NB Ramps		*			*	*	*	**	\$ -
30	511.01	ND 5 160th 1/2 Ave NE				*	*	*	*	**	\$ -
30	516.01	7th St & ND 18	*					*	*	**	\$ -
32	1.02	101st St NE (Pembina 1) & 135th Ave NE (Pembina 518)					*	*	*	*	\$ -
33	2.02	141st Ave NE (Pembina 2) & 107th St NE (Pembina 55)					*	*	*	*	\$ -
34	3.01	88th St NE (Pembina 3) & ND 32					*	*	*	*	\$ -
35	3.02	88th St NE (Pembina 3) & 135th Ave NE (Pembina 12)					*	*	*	*	\$ -
36	3.04	88th St NE (Pembina 3) & 148th Ave NE (US 81) SOUTH					*	*	*	*	\$ -
37	3.05	89th St NE (Pembina 3) & 148th Ave NE (US 81) NORTH					*	*	*	*	\$ -
38	9.01	104th St NE (Pembina 9) & 135th Ave NE (Pembina 12)					*	*	*	*	\$ -
39	11.04	84th St NE (Pembina 11) & 161st Ave NE				*		*	*	*	\$ -
40	12.01	ND 66 & 135th Ave NE (Pembina 12)					*	*	*	*	\$ -
41	55.03	107th St NE (Pembina 55) & 135th Ave NE (Pembina 55)					*	*	*	*	\$ -
42	505.01	92nd St NE (Pembina 505) & ND 32					*	*	*	*	\$ -
43	506.01	93rd St NE & 160th Ave NE	*					*	*	*	\$ -
44	509.01	ND 5 & 135th 1/2 Ave NE		*				*	*	*	\$ -
45	6.01	92nd St NE (Pembina 6) & 127th Ave NE						*	*	*	\$ -
46	503.01	91st St NE (Pembina 503) & 133rd Ave NE						*	*	*	\$ -
47	504.01	92nd St NE (Pembina 504) & 133rd Ave NE						*	*	*	\$ -

Totals

Total Stars -- 8 12 4 4 39 12 14
% That Gets Star -- 17% 26% 9% 9% 83% 26% 30%

*****	0	0%
*****	0	0%
*****	1	2%
****	0	0%
***	15	32%
**	15	32%
*	13	28%
-	3	6%
	47	100%

Stars

- Skew - If intersection is skewed at an angle of 20 degrees or greater.
- On/Near Curve - If intersection is on or within 1,000 feet of curve.
- Development - If intersection aerial shows a commercial development with access near intersection.
- RR Xing - If intersection has a railroad crossing on any approach within 500 feet.
- Previous STOP (>5 mi) - If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles
- Total Crashes - If intersection has at least 1 crash.
- ADT Cross Product - If intersection has an ADT cross product >100,000.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**141st Ave NE (Pembina 2) & Division Ave NE (ND 5)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: Yes
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: #N/A
Entering ADT: 2463 Minor Entering ADT: #N/A

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$51,850.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$46,665
Local Match (10% of Total project cost) \$5,185
Total Project Cost **\$51,850**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 1
Intersection ID: 2.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**101st St NE (Pembina 1) & 141st Ave NE (Pembina 2)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: #N/A
Entering ADT: 670 Minor Entering ADT: #N/A

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

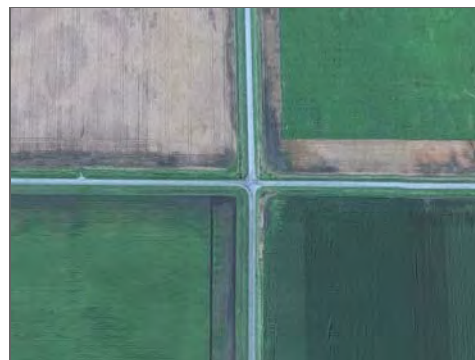
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	1	1.00
Rate (per MVM)	0.8	0.8	0.8

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$8,730
Local Match (10% of Total project cost)	\$970
Total Project Cost	\$9,700

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**ND 5 & 127th Ave NE (Pembina 6)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 870
Entering ADT: 1275 Minor Entering ADT: 405

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

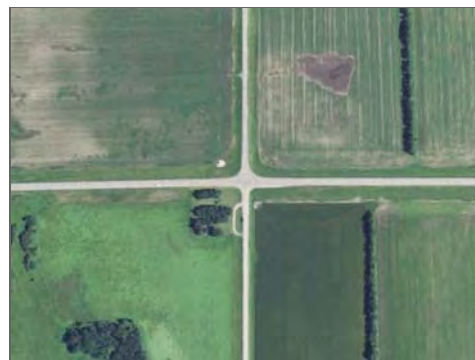
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.4	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$59,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$53,730
Local Match (10% of Total project cost) \$5,970
Total Project Cost **\$59,700**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**89th St NE (Pembina 3) & Interstate 29 NB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 35
Entering ADT: 70 Minor Entering ADT: 35

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	7.8	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$3,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**101st St NE (Pembina 1) & 127th Ave NE****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 995
Entering ADT: 1117 Minor Entering ADT: 122

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.5	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,250.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,325
Local Match (10% of Total project cost) \$925
Total Project Cost **\$9,250**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**101st St NE (Pembina 1) & 144th Ave NE (ND 18)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 518
Entering ADT: 740 Minor Entering ADT: 223

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.7	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$8,730
Local Match (10% of Total project cost)	\$970
Total Project Cost	\$9,700

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**101st St NE (Pembina 1) & Interstate 29 NB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 60
Entering ADT: 100 Minor Entering ADT: 40

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

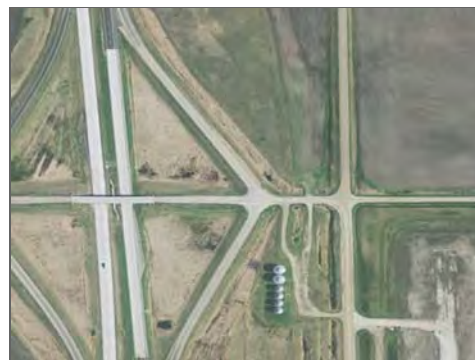
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	5.5	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**86th St NE (Pembina 502) & Interstate 29 SB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 60
Entering ADT: 85 Minor Entering ADT: 25

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

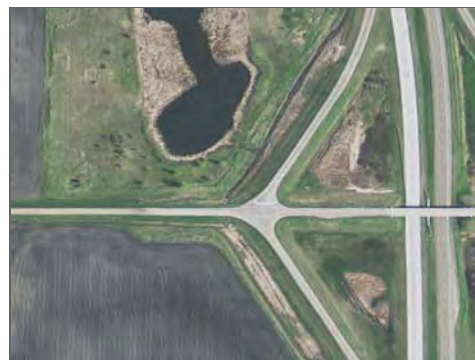
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	6.4	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**101st St NE (Pembina 1) & 137th Ave NE (Pembina 12)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 450
Entering ADT: 680 Minor Entering ADT: 230

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$8,100
Local Match (10% of Total project cost)	\$900
Total Project Cost	\$9,000

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**84th St NE (Pembina 11) & US 81****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 530
Entering ADT: 635 Minor Entering ADT: 105

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

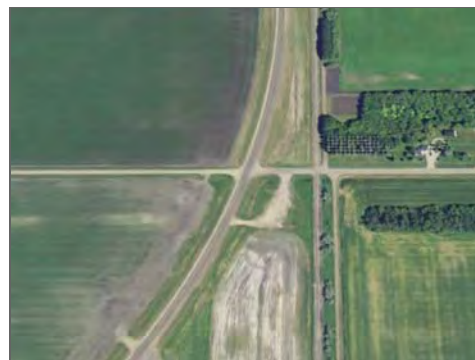
North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,700
Local Match (10% of Total project cost)	\$300
Total Project Cost	\$3,000

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**84th St NE (Pembina 11) & Interstate 29 NB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 140
Entering ADT: 180 Minor Entering ADT: 40

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

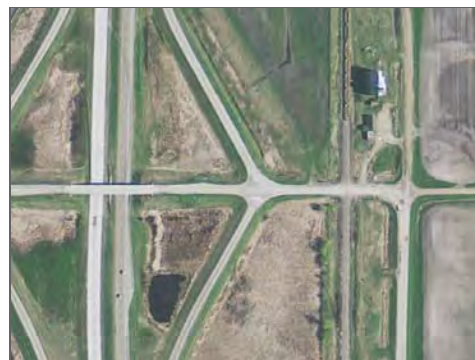
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$3,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,330
Local Match (10% of Total project cost)	\$370
Total Project Cost	\$3,700

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**ND 5 (W) & 137th Ave NE (Pembina 12)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 1360
Entering ADT: 1445 Minor Entering ADT: 85

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$8,100
Local Match (10% of Total project cost)	\$900
Total Project Cost	\$9,000

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**ND 5 (E) & 137th Ave NE (Pembina 12)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 1650
Entering ADT: 1787 Minor Entering ADT: 137

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**107th St NE (Pembina 55) & Interstate 29 SB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 1085
Entering ADT: 1938 Minor Entering ADT: 853

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	2	\$12,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$65,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$59,130
Local Match (10% of Total project cost) \$6,570
Total Project Cost **\$65,700**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 14
Intersection ID: 55.05
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**ND 66 & 161st Ave NE (Pembina 500)****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: Yes
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 1763
Entering ADT: 3215 Minor Entering ADT: 1453

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$350 per sign	4	\$1,400.00	
Upgrade Junction Sign	\$350 per sign	4	\$1,400.00	
Upgrade Stop Ahead Sign	\$450 per sign	4	\$1,800.00	
Upgrade Stop Ahead Marking	\$450 per marking	4	\$1,800.00	
Upgrade Stop Bar	\$250 per marking	4	\$1,000.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$7,400.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$6,660
Local Match (10% of Total project cost) \$740
Total Project Cost **\$7,400**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**86th St NE (Pembina 502) & Interstate 29 NB Ramps****Agency Name:** Pembina County**Contact Name:** Troy Kittelson**Email Address:** pembhwy@nd.gov**ND DOT District:** 6**Telephone Number:** 701-265-4208

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru/Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Pembina Major Entering ADT: 70
Entering ADT: 103 Minor Entering ADT: 33

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

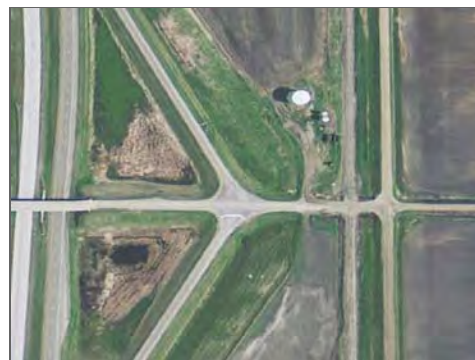
North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$3,330
Local Match (10% of Total project cost) \$370
Total Project Cost **\$3,700**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Ramsey County
Rural Segment Projects

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	6" Edge Lines	Edge Rumble Strip	6" Center Line	Project Cost (\$)
1	1.01	Ramsey 1	Start of Ramsey 1	Intersection with ND 20	3.8	★ ★ ★ ★	3.8	0.0	3.8	\$4,940.00
2	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	13.0	★ ★ ★	0.0	13.0	0.0	\$45,500.00
3	2.01	Ramsey 2	Intersection with Elks Drive	Intersection with 96th Avenue	13.0	★ ★ ★	0.0	13.0	0.0	\$45,500.00
4	3.01	Ramsey 3	Intersection with 48th Street	Intersection with ND 17	21.2	★ ★ ★	0.0	21.2	0.0	\$74,200.00
5	507.01	No designation	Intersection with US 2	Intersection with 48th Street	0.8	★ ★ ★	0.0	0.8	0.0	\$2,800.00
6	508.01	No designation	End of road at lake	Intersection with ND 20	2.0	★ ★ ★	0.0	2.0	0.0	\$7,000.00
							3.8	50.0	3.8	\$179,940.00

Ramsey County

Rural Segment Listing

*High Priority Segments Project Sheet Page Number

Project Sheet Page*	Corridor	Route	Start	End	Length (miles)	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assesment
1	1.01	Ramsey 1	Start of Ramsey 1	Intersection with ND 20	3.8	4	1,791	0.21	12.6	0.52	2
3	2.01	Ramsey 2	Intersection with Elks Drive	Intersection with 96th Avenue	13.0	3	486	0.05	7.6	0.00	2
4	3.01	Ramsey 3	Intersection with 48th Street	Intersection with ND 17	21.2	2	263	0.02	5.9	0.09	2
2	3.02	Ramsey 3	Intersection with ND 17	Ramsey/Cavalier County Line	9.8	0	222	0.00	7.2	0.20	1
	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	13.0	0	166	0.00	5.7	0.31	3
	4.03	Ramsey 4	Intersection with 61st Street	Intersection with ND 17	8.7	0	60	0.00	6.2	0.23	2
	7.02	Ramsey 7	Intersection with 105th Avenue	Intersection with ND 1 (S)	0.9	0	187	0.00	16.8	0.00	1
	8.01	Ramsey 8	Intersection with ND 20 / 81st Avenue	Intersection with 91st Avenue (S)	10.0	1	168	0.02	6.6	0.00	2
	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	14.3	0	89	0.00	7.8	0.28	2
	9.02	Ramsey 9	Intersection with ND 1	Ramsey / Walsh County Line	9.0	1	31	0.02	7.2	0.00	1
	504.01	No designation	Crary south city limit (approx 1250 feet south of Lyle Street intersection)	Crary south city limit (approx 1250 feet south of Lyle Street intersection)	1.6	0	210	0.00	22.7	0.00	1
	505.01	Woods, Ritten Road	Ramsey/Benson County Line	Intersection with US 2	3.3	0	530	0.00	4.5	0.90	3
	506.01	Grahams Island Road	Intersection with 43rd Street	Intersection where 72nd tees into Park Avenue	1.2	0	140	0.00	6.6	0.00	3
	506.02	Grahams Island Road	Intersection with 48th Street	Intersection with ND 19	3.1	0	145	0.00	4.8	0.00	3
5	507.01	No designation	Intersection with US 2	Intersection with 48th Street	0.8	1	666	0.25	15.3	1.27	1
6	508.01	No designation	End of road at lake	Intersection with ND 20	2.0	0	458	0.00	14.1	0.50	1
					115.7	12					

Edge Risk Legend

- 1 Risky* - NEITHER shoulder or good clear zone
2 Either a shoulder OR good clear zone
3 BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure

150
500

	Access	Lane Departure	Critical Radius
		Curves	
Total	842	12	15
Total Mileage	115.7	115.7	115.7
Years		5	
Average Density (Total/Mile)	7.3	0.02	0.13

Ramsey County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers	
													Edge Risk	ADT
1	1.01	Ramsey 1	Start of Ramsey 1	Intersection with ND 20	3.8	1,791		*	*	*	*	★★★★	2	1,791
2	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	13	165.5	*			*	*	★★★★	3	166
3	2.01	Ramsey 2	Intersection with Elks Drive	Intersection with 96th Avenue	13	486.25	*	*			*	★★★★	2	486
4	3.01	Ramsey 3	Intersection with 48th Street	Intersection with ND 17	21.2	263	*			*	*	★★★★	2	263
5	507.01	No designation	Intersection with US 2	Intersection with 48th Street	0.8	666		*	*	*	*	★★★★	1	666
6	508.01	No designation	End of road at lake	Intersection with ND 20	2	457.5	*		*	*	*	★★★★	1	458
7	505.01	Woods_Rutten Road	Ramsey/Benson County Line	Intersection with US 2	3.3	530				*	*	★★★	3	530
8	8.01	Ramsey 8	Intersection with ND 20 / 81st Avenue	Intersection with 91st Avenue (S)	10	168.25	*				*	★★	2	168
9	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	14.3	88.5				*	*	★★	2	89
10	4.03	Ramsey 4	Intersection with 61st Street	Intersection with ND 17	8.7	60				*	*	★★	2	60
13	3.02	Ramsey 3	Intersection with ND 17	Ramsey/Cavalier County Line	9.8	221.5	*			*	*	★★	1	222
14	504.01	No designation	Crary south city limit (approx 1250 feet south of Lyle Street intersection)	Crary south city limit (approx 1250 feet south of Lyle Street intersection)	1.6	210	*		*		*	★★	1	210
15	7.02	Ramsey 7	Intersection with 105th Avenue	Intersection with ND 1 (S)	0.9	186.5	*		*		*	★★	1	187
16	506.02	Grahams Island Road	Intersection with 48th Street	Intersection with ND 19	3.1	145					*	*	3	145
17	506.01	Grahams Island Road	Intersection with 43rd Street	Intersection where 72nd tees into Park Avenue	1.2	140					*	*	3	140
18	9.02	Ramsey 9	Intersection with ND 1	Ramsey / Walsh County Line	9	31							1	31
							Total Stars --	8	3	5	9	10		
							% That Gets Star --	50%	19%	31%	56%	63%		

	#	%	%
★★★★★	0	0%	0%
★★★★	1	6%	3%
★★★	5	31%	43%
★★	7	44%	42%
*	2	13%	4%
	1	6%	8%
	16	100%	100%

Stars

ADT Range - If segment has an ADT in the range of most at risk ADT based on Northeast totals. (150 < ADT < 500)

Lane Departure Density - If segment has higher lane departure density than the Northeast average (0.032).

Access Density - If segment has access density than the nationwide average (8).

Curve Critical Radius Density - If segment has higher density of curves with critical radius than the Northeast average (0.084).

Edge Risk Assessment - Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Ramsey 1 from Start of Ramsey 1 to Intersection with ND 20****Agency Name:** Ramsey County**ND DOT District:** 3**Contact Name:** Kevin Fieldsend**Telephone Number:** 701-662-7015**Email Address:** hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Start of Ramsey 1	Lane Width: 12'
End: Intersection with ND 20	Speed Limit: High
Facility Type: 2-Lane	Shoulder Width: 1'
ADT: 1791	Shoulder Type: Paved
Road Type Rural Paved	Length (miles): 3.8
County Road Ramsey 1	Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	21	3	0
Density (per mile per year)	1.11	0.16	0.00
Rate (per MVM)	1.69	0.24	0.00

	Value	Critical	Road
ADT Range	1,791	150≤ADT≤500	
RD Density	0.210	0.032	★
Access Density	12.6	8.0	★
Curve Critical Radius Density	0.524	0.084	★
Edge Risk	2	2 or 3	★

★★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Noise Sensitive. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	3.8	\$2,470	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	3.8	\$2,470	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$4,446
Local Match (10% of Total project cost)	\$494
Total Project Cost	\$4,940

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

Page:	1
Segment ID:	1.01
Date:	10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ramsey 4 from Intersection with US 2 to Intersection with 55th Street

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with US 2
End: Intersection with 55th Street
Facility Type: 2-Lane
ADT: 166
Road Type Rural Paved
County Road Ramsey 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 13.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	0	0
Density (per mile per year)	0.09	0.00	0.00
Rate (per MVM)	1.53	0.00	0.00

	Value	Critical	Road
ADT Range	166	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	5.7	8.0	
Curve Critical Radius Density	0.307	0.084	★
Edge Risk	3	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	13.0	\$45,500	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$40,950
Local Match (10% of Total project cost)	\$4,550
Total Project Cost	\$45,500

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 2
Segment ID: 4.01
Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Ramsey 2 from Intersection with Elks Drive to Intersection with 96th Avenue**

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with Elks Drive	Lane Width: 12'
End: Intersection with 96th Avenue	Speed Limit: High
Facility Type: 2-Lane	Shoulder Width: 2'
ADT: 486	Shoulder Type: Paved
Road Type Rural Paved	Length (miles): 13.0
County Road Ramsey 2	Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	19	3	0
Density (per mile per year)	0.29	0.05	0.00
Rate (per MVM)	1.65	0.26	0.00

	Value	Critical	Road
ADT Range	486	150≤ADT≤500	★
RD Density	0.046	0.032	★
Access Density	7.6	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	13.0	\$45,500	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$40,950
Local Match (10% of Total project cost)	\$4,550
Total Project Cost	\$45,500

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

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Segment ID:	2.01
Date:	10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Ramsey 3 from Intersection with 48th Street to Intersection with ND 17****Agency Name:** Ramsey County**ND DOT District:** 3**Contact Name:** Kevin Fieldsend**Telephone Number:** 701-662-7015**Email Address:** hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with 48th Street
End: Intersection with ND 17
Facility Type: 2-Lane
ADT: 263
Road Type Rural Paved
County Road Ramsey 3

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 21.2
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	7	2	0
Density (per mile per year)	0.07	0.02	0.00
Rate (per MVM)	0.69	0.20	0.00

	Value	Critical	Road
ADT Range	263	150≤ADT≤500	★
RD Density	0.019	0.032	
Access Density	5.9	8.0	
Curve Critical Radius Density	0.094	0.084	★
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	21.2	\$74,200	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$66,780
Local Match (10% of Total project cost)	\$7,420
Total Project Cost	\$74,200

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

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Segment ID: 3.01
Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**No designation from Intersection with US 2 to Intersection with 48th Street****Agency Name:** Ramsey County**ND DOT District:** 3**Contact Name:** Kevin Fieldsend**Telephone Number:** 701-662-7015**Email Address:** hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Intersection with US 2	Lane Width: 12'
End: Intersection with 48th Street	Speed Limit: High
Facility Type: 2-Lane	Shoulder Width: 4'
ADT: 666	Shoulder Type: Gravel
Road Type Rural Paved	Length (miles): 0.8
County Road No designation	Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.50	0.25	0.00
Rate (per MVM)	2.06	1.03	0.00

	Value	Critical	Road
ADT Range	666	150≤ADT≤500	
RD Density	0.255	0.032	★
Access Density	15.3	8.0	★
Curve Critical Radius Density	1.275	0.084	★
Edge Risk	1	2 or 3	
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.8	\$2,800	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,520
Local Match (10% of Total project cost)	\$280
Total Project Cost	\$2,800

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

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Segment ID:	507.01
Date:	10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

No designation from End of road at lake to Intersection with ND 20

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: End of road at lake
End: Intersection with ND 20
Facility Type: 2-Lane
ADT: 458
Road Type Rural Paved
County Road No designation

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☒ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase Survivability
☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	3	0	0
Density (per mile per year)	0.30	0.00	0.00
Rate (per MVM)	1.80	0.00	0.00

	Value	Critical	Road
ADT Range	458	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	14.1	8.0	★
Curve Critical Radius Density	0.504	0.084	★
Edge Risk	1	2 or 3	
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	2.0	\$7,000	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$6,300
Local Match (10% of Total project cost)	\$700
Total Project Cost	\$7,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 6
Segment ID: 508.01
Date: 10/24/2013

Ramsey County Curves

Curve Count	ID	Corridor	Segment	Start	End	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes				Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
									Total	Total Severe	K	A							
1	001A	1.01	Ramsey 1	Start of Ramsey 1	Intersection with ND 20	Yes	No	No	-	-	-	-	545	1791	Yes	Yes	High	***	
2	001B	1.01	Ramsey 1	Start of Ramsey 1	Intersection with ND 20	Yes	No	No	1	-	-	-	455	1791	Yes	Yes	High	**	
3	003A	3.01	Ramsey 3	Intersection with 48th Street	Intersection with ND 17	Yes	No	No	1	-	-	-	930	263	No	No	High	*	
4	003B	3.01	Ramsey 3	Intersection with 48th Street	Intersection with ND 17	Yes	No	No	-	-	-	-	965	263	Yes	Yes	High	***	
5	003C	3.02	Ramsey 3	Intersection with ND 17	Ramsey/Cavalier County Line	Yes	No	No	1	-	-	-	1120	222	Yes	Yes	High	***	
6	003D	3.02	Ramsey 3	Intersection with ND 17	Ramsey/Cavalier County Line	Yes	No	No	-	-	-	-	1055	222	Yes	Yes	High	***	
7	004A	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	Yes	No	No	-	-	-	-	1755	166	No	No	High	*	S-Curve
8	004B	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	Yes	No	No	-	-	-	-	850	166	No	No	High	*	S-Curve
9	004C	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	Yes	No	No	-	-	-	-	1175	166	No	No	High	*	S-Curve
10	004D	4.01	Ramsey 4	Intersection with US 2	Intersection with 55th Street	Yes	No	No	-	-	-	-	1460	166	No	No	High		S-Curve
11	004E	4.03	Ramsey 4	Intersection with 61st Street	Intersection with ND 17	Yes	Yes	No	-	-	-	-	1160	60	Yes	Yes	High	***	50 MPH
12	004F	4.03	Ramsey 4	Intersection with 61st Street	Intersection with ND 17	No	No	No	-	-	-	-	1105	60	Yes	Yes	High	***	
13	008A	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	Yes	Yes	No	-	-	-	-	550	89	Yes	Yes	High	***	50 MPH
14	008B	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	No	No	No	-	-	-	-	600	89	No	Yes	High	**	
15	008C	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	Yes	No	No	-	-	-	-	380	89	No	No	High		
16	008D	8.02	Ramsey 8	Intersection with 91st Avenue (N)	Intersection with ND 1	No	No	No	-	-	-	-	300	89	No	No	High		
17	505A	505.01	ods_Rutten R Ramsey/Benson County Line	Intersection with US 2	Intersection with US 2	Yes	No	No	-	-	-	-	1065	530	Yes	Yes	High	****	
18	505B	505.01	ods_Rutten R Ramsey/Benson County Line	Intersection with US 2	Intersection with US 2	Yes	No	No	-	-	-	-	660	530	No	No	High	**	
19	505C	505.01	ods_Rutten R Ramsey/Benson County Line	Intersection with US 2	Intersection with US 2	Yes	No	No	-	-	-	-	720	530	No	No	High	**	
20	507A	507.01	No designator	Intersection with US 2	Intersection with 48th Street	Yes	Yes	No	-	-	-	-	360	666	No	No	High		30 MPH
21	508A	508.01	No designator	End of road at lake	Intersection with ND 20	No	No	No	-	-	-	-	600	458	Yes	Yes	High	****	

Stars	Total	
	#	%
*****	0	0%
****	2	9%
***	7	32%
**	4	18%
*	3	14%
	6	27%
	22	100%

Critical Ranges	Min	Max
Radius	500	1,200
ADT	350	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 1 from Start of Ramsey 1 to Intersection with ND 20**

Agency Name: Ramsey County

Contact Name: Kevin Fieldsend

Email Address: hwydept@stellarnet.com

ND DOT District: 3

Telephone Number: 701-662-7015

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Start of Ramsey 1
End: Intersection with ND 20
Facility Type: 2-Lane
ADT: 1791
Road Type Rural Paved
County Road Ramsey 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 3.8
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
001A	0	0	545	1791	Yes	Yes	★★★	-	x	Chevron	Inside/Outside	Inside/Outside	x	40
001B	0	0	455	1791	Yes	Yes	★★	x	-	Chevron	Inside/Outside	Inside/Outside	x	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.2 miles	\$692	
Shoulder Paving	Proactive	\$37,000 per mile	.2 miles	\$8,533	
				\$17,425	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$15,682
Local Match (10% of Total project cost) \$1,742
Total Project Cost **\$17,425**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 3 from Intersection with 48th Street to Intersection with ND 17**

Agency Name: Ramsey County

Contact Name: Kevin Fieldsend

Email Address: hwydept@stellarnet.com

ND DOT District: 3

Telephone Number: 701-662-7015

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with 48th Street
End: Intersection with ND 17
Facility Type: 2-Lane
ADT: 263
Road Type Rural Paved
County Road Ramsey 3

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 21.2
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
003A	0	0	930	263	No	No	★	-	x	Chevron	-	Inside/Outside	x	50
003B	0	0	965	263	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.3 miles	\$978	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$9,178	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,260
Local Match (10% of Total project cost) \$918
Total Project Cost **\$9,178**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 3 from Intersection with ND 17 to Ramsey/Cavalier County Line**

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with ND 17
End: Ramsey/Cavalier County Line
Facility Type: 2-Lane
ADT: 222
Road Type Rural Paved
County Road Ramsey 3

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 9.8
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
003C	0	0	1120	222	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	-	-
003D	0	0	1055	222	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.6 miles	\$1,870	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$9,270	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,343
Local Match (10% of Total project cost) \$927
Total Project Cost **\$9,270**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 4 from Intersection with US 2 to Intersection with 55th Street**

Agency Name: Ramsey County

Contact Name: Kevin Fieldsend

Email Address: hwydept@stellarnet.com

ND DOT District: 3

Telephone Number: 701-662-7015

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with US 2
End: Intersection with 55th Street
Facility Type: 2-Lane
ADT: 166
Road Type Rural Paved
County Road Ramsey 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 1'
Shoulder Type: Paved
Length (miles): 13.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
004A	0	0	1755	166	No	No		x	-	-	Inside/Outside	Inside/Outside	-	-
004B	0	0	850	166	No	No	★	-	x	Chevron	Inside/Outside	Inside/Outside	x	45
004C	0	0	1175	166	No	No	★	-	x	Chevron	Inside/Outside	Inside/Outside	-	-
004D	0	0	1460	166	No	No		x	-	-	Inside/Outside	Inside/Outside	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.5 miles	\$1,607	
Shoulder Paving	Proactive	\$37,000 per mile	.5 miles	\$19,818	
				\$28,825	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$25,942
Local Match (10% of Total project cost) \$2,882
Total Project Cost **\$28,825**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 4 from Intersection with 61st Street to Intersection with ND 17**

Agency Name: Ramsey County

Contact Name: Kevin Fieldsend

Email Address: hwydept@stellarnet.com

ND DOT District: 3

Telephone Number: 701-662-7015

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with 61st Street
End: Intersection with ND 17
Facility Type: 2-Lane
ADT: 60
Road Type Rural Paved
County Road Ramsey 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 8.7
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
004E	0	0	1160	60	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	-	-
004F	0	0	1105	60	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.6 miles	\$1,937	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$8,537	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$7,684
Local Match (10% of Total project cost) \$854
Total Project Cost **\$8,537**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Ramsey 8 from Intersection with 91st Avenue (N) to Intersection with ND 1**

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with 91st Avenue (N)	Lane Width: 12'	<input type="checkbox"/> SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
End: Intersection with ND 1	Speed Limit: High	
Facility Type: 2-Lane	Shoulder Width: 2'	
ADT: 89	Shoulder Type: Paved	
Road Type Rural Paved	Length (miles): 14.3	
County Road Ramsey 8	Rumble Installed: No	

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
008A	0	0	550	89	Yes	Yes	★★★	-	x	Chevron	-	Inside/Outside	x	40
008B	0	0	600	89	No	Yes	★★	-	x	Chevron	-	Inside/Outside	x	40
008C	0	0	380	89	No	No		x	-	Chevron	-	Inside/Outside	x	35
008D	0	0	300	89	No	No		x	-	Chevron	-	Inside/Outside	x	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	4	\$13,200	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	4	\$3,200	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.4 miles	\$1,108	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$17,508	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$15,757
Local Match (10% of Total project cost)	\$1,751
Total Project Cost	\$17,508

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Woods_Rutten Road from Ramsey/Benson County Line to Intersection with US 2**

Agency Name: Ramsey County

ND DOT District: 3

Contact Name: Kevin Fieldsend

Telephone Number: 701-662-7015

Email Address: hwydept@stellarnet.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ramsey/Benson County Line End: Intersection with US 2 Facility Type: 2-Lane ADT: 530 Road Type Rural Paved County Road Woods_Rutten Road	Lane Width: 12' Speed Limit: High Shoulder Width: 2' Shoulder Type: Paved Length (miles): 3.3 Rumble Installed: No	<input type="checkbox"/> SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
505A	0	0	1065	530	Yes	Yes	★★★★	-	x	Chevron	-	Inside/Outside	x	50
505B	0	0	660	530	No	No	★★	x	x	Chevron	-	Inside/Outside	x	40
505C	0	0	720	530	No	No	★★	x	x	Chevron	-	Inside/Outside	x	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	3	\$9,900	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	3	\$2,400	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.4 miles	\$1,121	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$13,421	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$12,079
Local Match (10% of Total project cost)	\$1,342
Total Project Cost	\$13,421

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on No designation from End of road at lake to Intersection with ND 20**

Agency Name: Ramsey County

Contact Name: Kevin Fieldsend

Email Address: hwydept@stellarnet.com

ND DOT District: 3

Telephone Number: 701-662-7015

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: End of road at lake
End: Intersection with ND 20
Facility Type: 2-Lane
ADT: 458
Road Type Rural Paved
County Road No designation

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
508A	0	0	600	458	Yes	Yes	★★★★	-	x	Chevron	-	Inside/Outside	x	40

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.2 miles	\$566	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$4,666	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$4,199
Local Match (10% of Total project cost) \$467
Total Project Cost **\$4,666**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

**Ramsey County
Summary of Rural Intersection Projects**

Page	Intersection ID	Description	Risk Ranking	Directional Median	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Project Cost (\$)
1	508.01	45th St NE (Ramsey 508) & ND 20	★★★★★	-	X	X	X	\$59,000
2	505.01	44th St NE & 89th Ave NE (Ramsey 505)	★★★★★	-	-	-	X	\$1,850
3	1.01	47th St NE/County Highway 1 (Ramsey 1) & ND 20	★★★★	-	X	-	X	\$53,700
4	7.01	55th St NE (Ramsey 7) & ND 1	★★★★	-	-	X	X	\$9,000
5	8.02	Main St/105th Ave NE (Ramsey 8) & ND 1	★★★★	-	-	X	X	\$9,000
6	500.01	100th Ave & US 2 (E)	★★★★	-	-	X	X	\$8,300
7	507.01	83rd Ave NE (Ramsey 507) & US 2	★★★	X	-	X	X	\$759,250
8	8.01	60th St NE (Ramsey 8) & 81st Ave NE/ND 20	★★★	-	-	X	X	\$9,700
9	501.01	100th Ave & US 2 (W)	★★★	-	-	X	X	\$7,850
10	2.01	48th St NE (Ramsey 2) & 83rd Ave NE (Ramsey 507)	★★	-	X	X	X	\$59,000
11	506.01	49th St NE & 72nd Ave NE (Ramsey 506)	★★	-	-	-	X	\$3,000
12	4.01	US 2 & 96th Ave NE (Ramsey 4)	★★	-	-	X	-	\$9,000
13	504.01	44th St NE & 92nd Ave NE (Ramsey 504)	★★	-	-	X	-	\$9,250
14	2.02	48th St NE (Ramsey 2) & 91st Ave NE (Ramsey 3)	★★	-	-	X	-	\$7,850
				1	3	11	11	\$1,005,750

**Ramsey County
Rural Intersection Listing**

Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Crash Cost
1.01	47th St NE/County Highway 1 (Ramsey 1) & ND 20	No	Yes	No	No	8282	Yes	5	Yes	\$ 263,000
2.01	48th St NE (Ramsey 2) & 83rd Ave NE (Ramsey 507)	No	No	No	No	1280	No	1	Yes	\$ 12,000
2.02	48th St NE (Ramsey 2) & 91st Ave NE (Ramsey 3)	No	No	No	No	540	Yes	0	Yes	\$ -
2.03	48th St NE (Ramsey 2) & 92nd Ave NE (Ramsey 504)	No	No	No	No	337	No	0	No	\$ -
2.04	48th St NE (Ramsey 2) & 96th Ave NE (Ramsey 4)	No	No	No	No	240	Yes	0	No	\$ -
3.01	60th St NE (Ramsey 8) & 91st Ave NE (Ramsey 3)	No	No	No	No	307	Yes	0	No	\$ -
3.02	61st St NE (Ramsey 8) & 91st Ave NE (Ramsey 3)	No	No	No	No	267	Yes	0	No	\$ -
3.03	69th St NE/ND 17 & 92nd Ave NE (Ramsey 3)	No	No	No	No	443	Yes	0	No	\$ -
3.04	74th St NE (Ramsey 9) & 92nd Ave NE (Ramsey 3)	No	No	No	No	335	Yes	0	No	\$ -
4.01	US 2 & 96th Ave NE (Ramsey 4)	No	No	No	No	1928	Yes	0	Yes	\$ -
4.02	51st St NE (Ramsey 6) & 96th Ave NE (Ramsey 4)	No	No	No	No	183	Yes	0	No	\$ -
4.03	55th St NE (Ramsey 7) & 96th Ave NE (Ramsey 4)	No	No	No	No	250	Yes	0	No	\$ -
4.04	61st St NE (Ramsey 8) & 96th Ave NE (Ramsey 4)	No	No	No	No	110	No	0	No	\$ -
4.05	61st St NE (Ramsey 8) & 97th Ave NE (Ramsey 4)	No	No	No	No	127	No	0	No	\$ -
4.06	69th St NE/ND 17 & 99th Ave NE (Ramsey 4)	No	No	No	No	433	Yes	0	No	\$ -
4.07	74th St NE (Ramsey 9) & 99th Ave NE (Ramsey 4)	No	No	No	No	170	Yes	0	No	\$ -
7.01	55th St NE (Ramsey 7) & ND 1	Yes	Yes	Yes	No	728	Yes	0	No	\$ -
7.02	57th St NE (Ramsey 7) & ND 1	No	No	No	No	293	Yes	0	No	\$ -
8.01	60th St NE (Ramsey 8) & 81st Ave NE/ND 20	No	No	Yes	No	1267	Yes	0	Yes	\$ -
8.02	Main St/105th Ave NE (Ramsey 8) & ND 1	Yes	Yes	Yes	No	640	Yes	0	No	\$ -
9.01	74th St NE (Ramsey 9) & 82nd Ave NE/ND 17	No	No	No	No	435	Yes	0	No	\$ -
9.02	74th St NE (Ramsey 9) & 105th Ave NE/ND 1	No	No	No	No	558	Yes	0	No	\$ -
10.03	65th St NE (Ramsey 10) & 81st Ave NE/ND 20	No	No	No	No	1223	Yes	0	No	\$ -
500.01	100th Ave & US 2 (E)	Yes	Yes	No	No	2445	Yes	0	Yes	\$ -
500.02	100th Ave & 100th Ave	Yes	Yes	No	No	235	Yes	0	No	\$ -
501.01	100th Ave & US 2 (W)	No	Yes	No	No	2340	Yes	0	Yes	\$ -
502.01	42nd St NE (Ramsey 502) & 97th Ave NE (Ramsey 503)	No	No	No	No	300	No	0	No	\$ -
502.02	42nd St NE (Ramsey 502) & 96th Ave NE	No	No	No	No	240	No	0	No	\$ -
503.01	44th St NE & 97th Ave NE (Ramsey 503)	No	No	No	No	1945	No	0	Yes	\$ -
504.01	44th St NE & 92nd Ave NE (Ramsey 504)	No	No	No	No	2308	Yes	0	Yes	\$ -
505.01	44th St NE & 89th Ave NE (Ramsey 505)	Yes	Yes	Yes	No	345	Yes	1	No	\$ 136,000
506.01	49th St NE & 72nd Ave NE (Ramsey 506)	No	No	No	No	945	Yes	1	No	\$ 12,000
507.01	83rd Ave NE (Ramsey 507) & US 2	No	Yes	No	No	3315	No	2	Yes	\$ 148,000
508.01	45th St NE (Ramsey 508) & ND 20	Yes	Yes	Yes	No	4952	Yes	2	Yes	\$ 24,000

Ramsey County Rural Intersection Prioritization

[illegible]

Totals			Total Stars --	6	9	5	0	26	6	11
			% That Gets Star --	18%	26%	15%	0%	76%	18%	32%
	#	%								
★★★★★★	0	0%	Stars							
★★★★★	1	3%	Skew - If intersection is skewed at an angle of 20 degrees or greater.							
★★★★	1	3%	On/Near Curve - If intersection is on or within 1,000 feet of curve.							
★★★★	4	12%	Development - If intersection aerial shows a commercial development with access near intersection.							
★★★	4	12%	RR Xing - If intersection has a railroad crossing on any approach within 500 feet.							
★★	5	15%	Previous STOP (>5 mi) - If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles							
★	14	41%	Total Crashes - If intersection has at least 1 crash.							
-	5	15%	ADT Cross Product - If intersection has an ADT cross product >100,000							
	34	100%								

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**45th St NE (Ramsey 508) & ND 20****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 4555
Entering ADT: 4952 Minor Entering ADT: 397
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	2	1	0.00
Rate (per MVM)	0.2	0.1	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	2	>0	★

★★★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$59,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$53,100
Local Match (10% of Total project cost) \$5,900
Total Project Cost **\$59,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 1

Intersection ID: 508.01

Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**44th St NE & 89th Ave NE (Ramsey 505)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 330
Entering ADT: 345 Minor Entering ADT: 29
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	1	0.00
Rate (per MVM)	1.6	1.6	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★

★★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$1,850.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$1,665
Local Match (10% of Total project cost) \$185
Total Project Cost **\$1,850**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 2

Intersection ID: 505.01

Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**47th St NE/County Highway 1 (Ramsey 1) & ND 20****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: Yes
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 7048
Entering ADT: 8282 Minor Entering ADT: 1235
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	5	0	0.00
Rate (per MVM)	0.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	5	>0	★

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$53,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$48,330
Local Match (10% of Total project cost) \$5,370
Total Project Cost **\$53,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 3
Intersection ID: 1.01
Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**55th St NE (Ramsey 7) & ND 1****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 600
Entering ADT: 728 Minor Entering ADT: 128
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 4

Intersection ID: 7.01

Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Main St/105th Ave NE (Ramsey 8) & ND 1****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 498
Entering ADT: 640 Minor Entering ADT: 143
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 5
Intersection ID: 8.02
Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**100th Ave & US 2 (E)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Divided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 2235
Entering ADT: 2445 Minor Entering ADT: 210
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$8,300.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,470
Local Match (10% of Total project cost) \$830
Total Project Cost **\$8,300****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 6

Intersection ID: 500.01

Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**83rd Ave NE (Ramsey 507) & US 2****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Divided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 2550
Entering ADT: 3315 Minor Entering ADT: 765
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

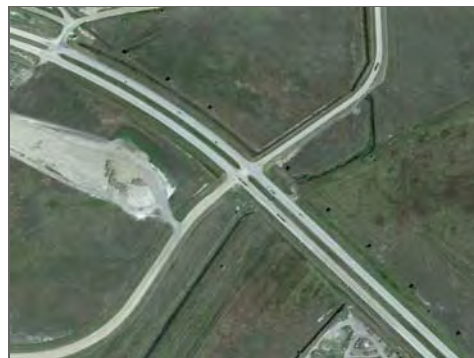
Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	2	0	0.00
Rate (per MVM)	0.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	2	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	1	\$750,000.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$759,250.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$683,325
Local Match (10% of Total project cost) \$75,925
Total Project Cost **\$759,250**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 7

Intersection ID: 507.01

Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**60th St NE (Ramsey 8) & 81st Ave NE/ND 20****Agency Name: Ramsey County****ND DOT District: 3****Contact Name: Kevin Fieldsend****Telephone Number: 701-662-7015****Email Address: hwydept@stellarnet.com**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 1138
Entering ADT: 1267 Minor Entering ADT: 130
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,730
Local Match (10% of Total project cost) \$970
Total Project Cost **\$9,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**100th Ave & US 2 (W)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T
Configuration (2): Divided
Urban/Rural: Rural
County: Ramsey
Entering ADT: 2340
Traffic Control Device: Thru Stop
Street Lights: No
Flashers: No
Major Entering ADT: 2235
Minor Entering ADT: 210
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$7,850.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,065
Local Match (10% of Total project cost) \$785
Total Project Cost **\$7,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**48th St NE (Ramsey 2) & 83rd Ave NE (Ramsey 507)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 905
Entering ADT: 1280 Minor Entering ADT: 375
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.4	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$59,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$53,100
Local Match (10% of Total project cost) \$5,900
Total Project Cost **\$59,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**49th St NE & 72nd Ave NE (Ramsey 506)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 885
Entering ADT: 945 Minor Entering ADT: 60
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.6	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$3,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$2,700
Local Match (10% of Total project cost) \$300
Total Project Cost **\$3,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**US 2 & 96th Ave NE (Ramsey 4)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Divided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 1775
Entering ADT: 1928 Minor Entering ADT: 153
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,000.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 12
Intersection ID: 4.01
Date: 10/24/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**44th St NE & 92nd Ave NE (Ramsey 504)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: Thru Stop
Configuration (2): Divided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 2083
Entering ADT: 2308 Minor Entering ADT: 225
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,250.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,325
Local Match (10% of Total project cost) \$925
Total Project Cost **\$9,250**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**48th St NE (Ramsey 2) & 91st Ave NE (Ramsey 3)****Agency Name: Ramsey County****Contact Name: Kevin Fieldsend****Email Address: hwydept@stellarnet.com****ND DOT District: 3****Telephone Number: 701-662-7015**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Ramsey Major Entering ADT: 420
Entering ADT: 540 Minor Entering ADT: 240
Major Leg: Paved

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$7,850.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,065
Local Match (10% of Total project cost) \$785
Total Project Cost **\$7,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Walsh County
Rural Segment Projects

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	4" Edge Line	6" Edge Lines	Project Cost (\$)
1	19.06	Walsh 19	Curve from 56th Street (approx. 4.5 miles east of ND 32)	Intersection with ND 18	7.8	***	7.8	0.0	\$3,120.00
2	15.09	Walsh 15	Curve from 142nd Avenue	Intersection with US 81	8.6	***	0.0	8.6	\$5,590.00
3	9.03	Walsh 9	Intersection with 119th Avenue	Edinburg west city limit (intersection with 5th Street)	10.0	***	10.0	0.0	\$4,000.00
4	12.14	Walsh 12	Park River north city limit (5-leg intersection)	Walsh / Pembina County Line	8.8	***	0.0	8.8	\$5,720.00
5	15.05	Walsh 15	Intersection with ND 32	Pisek west city limit (intersection with Sunset Avenue)	6.7	***	6.7	0.0	\$2,680.00
6	12.04	Walsh 12B	Begin gravel section	End gravel section	1.4	***	1.4	0.0	\$560.00
7	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	2.5	***	0.0	2.5	\$1,625.00
8	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	11.1	***	11.1	0.0	\$4,440.00
9	12.01	Walsh 12B	Walsh/Grand Forks County Line	Fordville south city limit (intersection with 55th Street that tees in from east)	1.0	***	1.0	0.0	\$400.00
10	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	4.5	***	4.5	0.0	\$1,800.00
11	8.01	Walsh 8	Begin tangent section after curve from 62nd Street	End pavement / begin gravel	1.9	***	0.0	1.9	\$1,235.00
							42.5	21.8	\$31,170.00

**Walsh County
Rural Segment Listing**

*High Priority Segments Project Sheet Page Number

Project Sheet Page*	Corridor	Route	Start	End	Length (miles)	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assessment
	1.01	Walsh 1A	Hoople east city limit (approx 400 feet east of intersection with Dale Avenue)	Intersection with ND 18	0.4	0	515	0.00	23.3	0.00	0.00
	1.02	Walsh 1B	Hoople east city limit (Intersection with Glendale Avenue)	Intersection with ND 18	0.5	0	390	0.00	7.9	0.00	0.00
	4.02	Walsh 4	Begin tangent section after curve from 155th Avenue	Begin curve into 156th Avenue	0.8	0	85	0.00	4.7	0.00	0.00
	4.03	Walsh 4	Begin curve from 66th Street	Intersection with ND 17	3.0	0	85	0.00	4.3	0.00	0.00
10	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	4.5	0	281	0.00	12.7	1.11	1.00
	4.06	Walsh 4	End pavement / begin gravel	Walsh / Pembina County Line	2.8	0	290	0.00	8.6	0.00	0.00
	6.01	Walsh 6	Walsh / Nelson County Line	Intersection with 55th Street	1.0	0	500	0.00	8.0	0.00	1.00
11	8.01	Walsh 8	Begin tangent section after curve from 62nd Street	End pavement / begin gravel	1.9	1	275	0.11	10.2	0.00	1.00
	8.02	Walsh 8	End pavement / begin gravel	Curve into 67th Street	4.0	0	120	0.00	9.9	0.00	1.00
	9.02	Walsh 9	Intersection with 112th Avenue	Intersection with 119th Avenue	7.0	0	290	0.00	5.7	0.00	2.00
3	9.03	Walsh 9	Intersection with 119th Avenue	Edinburg west city limit (intersection with 5th Street)	10.0	2	440	0.04	6.6	0.20	2.00
8	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	11.1	4	353	0.07	6.7	0.27	1.00
	9.09	Walsh 9	Intersection with ND 18	Intersection with US 81	9.0	1	391	0.02	6.2	0.00	1.00
	9.1	Walsh 9	Intersection with US 81	Intersection with 155th Avenue	5.8	4	218	0.14	6.2	0.00	1.00
	9.11	Walsh 9	Intersection with 155th Avenue	Intersection with SB IH 29 Ramps	4.9	0	240	0.00	6.7	0.00	2.00
	9.12	Walsh 9	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.1	0	90	0.00	13.2	0.00	0.00
	11.01	Walsh 11A	Adams east city limit (could be driveway on north side, approximately 760 feet north of ND 17)	Intersection with ND 17	0.1	0	350	0.00	14.7	0.00	1.00
9	12.01	Walsh 12B	Walsh/Grand Forks County Line	Fordville south city limit (intersection with 55th Street that tees in from east)	1.0	1	340	0.20	11.0	0.00	1.00
	12.03	Walsh 12B	Fordville north city limit (intersection with 56th Street)	Begin gravel section	2.0	0	260	0.00	7.0	0.00	1.00
6	12.04	Walsh 12B	Begin gravel section	End gravel section	1.4	1	260	0.15	6.6	0.00	2.00
	12.05	Walsh 12B	End gravel section	Begin gravel section	0.9	1	120	0.21	5.3	4.22	1.00
	12.06	Walsh 12B	Begin gravel section	Curve into 66th Street	5.9	0	132	0.00	4.1	0.00	2.00
	12.07	Walsh 12B	Curve from 131st Avenue	Curve into 134th Avenue	1.9	1	240	0.10	3.1	0.00	0.00
	12.08	Walsh 12B	Curve from 66th Street	Park River south city limit (intersection with 67th Street)	1.3	0	195	0.00	8.0	0.00	0.00
	12.1	Walsh 12B	Intersection with 6th Street	Intersection with ND 17 / Park Street	0.1	1	700	2.01	20.1	0.00	0.00
4	12.14	Walsh 12	Park River north city limit (5-leg intersection)	Walsh / Pembina County Line	8.8	0	426	0.00	7.3	0.23	2.00
	12.15	Walsh 12A	Intersection with 55th Street	Curve into 61st Street	5.0	3	320	0.12	5.2	0.00	1.00
	12.16	Walsh 12A	Curve from 136th Street	Curve into 136th Avenue	0.8	0	320	0.00	6.4	0.00	0.00
	12.17	Walsh 12A	Curve from 61st Street	End gravel section	0.4	1	320	0.51	5.1	0.00	0.00
	14.01	Walsh 14	Walsh / Nelson County Line	Intersection with 62nd Street	8.0	0	305	0.00	7.1	0.00	1.00
	15.01	Walsh 15	Walsh / Ramsey County Line	Intersection with ND 35	7.0	0	305	0.00	6.6	0.00	1.00
	15.02	Walsh 15	Intersection with ND 35	Intersection with 125th Avenue	8.0	1	387	0.03	7.6	0.00	1.00
	15.03	Walsh 15	Intersection with 125th Avenue	Larkin east city limit (next driveway after Prospect Street intersection)	1.5	0	478	0.00	12.6	0.00	1.00
5	15.05	Walsh 15	Intersection with ND 32	Pisek west city limit (intersection with Sunset Avenue)	6.7	3	370	0.09	7.4	0.00	2.00
2	15.09	Walsh 15	Curve from 142nd Avenue	Intersection with US 81	8.6	4	611	0.09	6.5	0.12	2.00
	15.11	Walsh 15	Intersection with US 81	Minto east city limit (intersection with 151st Avenue)	0.4	0	410	0.00	15.6	0.00	1.00
	15.12	Walsh 15	Minto east city limit (intersection with 151st Avenue)	Intersection with SB IH 29 Ramps	7.9	12	473	0.30	6.4	0.00	1.00
	15.13	Walsh 15	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	0	345	0.00	12.2	0.00	1.00
	15.14	Walsh 15	Intersection with NB IH 29 Ramps	Intersection with 158th Drive	0.1	0	80	0.00	28.4	0.00	1.00
	16.03	Walsh 16	Intersection with 74th Street	Walsh/Cavalier County Line	4.0	2	110	0.10	3.8	0.00	1.00
	19.01	Walsh 19	Walsh / Ramsey County Line	Intersection with ND 35	7.0	0	303	0.00	7.6	0.00	0.00
	19.02	Walsh 19	Intersection with ND 35	Intersection with ND 32	12.0	0	393	0.00	5.0	0.00	0.00
7	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	2.5	1	410	0.08	7.1	1.19	1.00
	19.04	Walsh 19	Fordville west city limit	Fordville east city limit	1.0	0	360	0.00	37.6	0.00	1.00
	19.05	Walsh 19	Fordville east city limit	End of second horizontal curve	1.0	0	250	0.00	6.2	2.05	1.00
1	19.06	Walsh 19	Curve from 56th Street (approx. 4.5 miles east of ND 32)	Intersection with ND 18	7.8	3	390	0.08	4.8	0.00	3.00
	22.03	Walsh 22	Intersection with 75th Street	Walsh/Cavalier County Line	3.4	0	350	0.00	8.6	0.00	1.00
	503.01	No designation	Intersection with 69th Place (west of Grafton)	End of north/south segment	1.5	0	160	0.00	2.7	0.00	0.00
	504.01	No designation	Intersection with Westwood Drive (west of Grafton)	Intersection with School Road	2.2	0	160	0.00	6.2	0.00	1.00
					187.2	47					

Edge Risk Legend

- 1 Risky - NEITHER shoulder or good clear zone
- 2 Either a shoulder OR good clear zone
- 3 BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure

150
500

	Access	Lane Departure	Critical Radius Curves
Total	2580	47	10
Total Mileage	187.2	187.2	187.2
Years		5	
Average Density (Total/Mile)	13.8	0.05	0.05

Walsh County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers
												Edge Risk	ADT
1	9.03	Walsh 9	Intersection with 119th Avenue	Edinburg west city limit (intersection with 5th Street)	10.0	440	*	*		*	*	****	2 440
2	19.06	Walsh 19	Curve from 56th Street (approx. 4.5 miles east of ND 32)	Intersection with ND 18	7.8	390	*	*			*	****	3 390
3	15.09	Walsh 15	Curve from 142nd Avenue	Intersection with US 81	8.6	611	*	*		*	*	****	2 611
4	12.14	Walsh 12	Park River north city limit (5-leg intersection)	Walsh / Pembina County Line	8.8	426	*			*	*	****	2 426
5	15.05	Walsh 15	Intersection with ND 32	Pisak west city limit (intersection with Sunset Avenue)	6.7	370	*	*			*	****	2 370
6	12.04	Walsh 12B	Begin gravel section	End gravel section	1.4	260	*	*			*	****	2 260
7	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	2.5	410	*	*		*		****	1 410
8	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	11.1	353	*	*		*		****	1 353
9	12.01	Walsh 12B	Walsh/Grand Forks County Line	Fordville south city limit (intersection with 55th Street that tees in from east)	1.0	340	*	*	*			****	1 340
10	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	4.5	281	*	*	*	*		****	1 281
11	8.01	Walsh 8	Begin tangent section after curve from 62nd Stree	End pavement / begin grave	1.9	275	*	*	*			****	1 275
12	9.02	Walsh 9	Intersection with 112th Avenue	Intersection with 119th Avenue	7.0	290	*				*	**	2 290
13	9.11	Walsh 9	Intersection with 155th Avenue	Intersection with SB IH 29 Ramps	4.9	240	*				*	**	2 240
13	15.03	Walsh 15	Intersection with 125th Avenue	Larkin east city limit (next driveway after Prospect Street intersection)	1.5	478	*		*			**	1 478
14	15.12	Walsh 15	Minto east city limit (intersection with 151st Avenue)	Intersection with SB IH 29 Ramps	7.9	473	*	*				**	1 473
15	15.11	Walsh 15	Intersection with US 81	Minto east city limit (intersection with 151st Avenue)	0.4	410	*		*			**	1 410
16	19.04	Walsh 19	Fordville west city limit	Fordville east city limit	1.0	380	*	*				**	1 380
17	11.01	Walsh 11A	Adams east city limit (could be driveway on north side, approximately 760 feet north of ND 17)	Intersection with ND 17	0.1	350	*		*			**	1 350
18	22.03	Walsh 22	Intersection with 75th Street	Walsh/Cavalier County Line	3.4	350	*	*	*			**	1 350
19	15.13	Walsh 15	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.2	345	*		*			**	1 345
20	12.15	Walsh 12A	Intersection with 55th Street	Curve into 61st Street	5.0	320	*	*				**	1 320
21	19.05	Walsh 19	Fordville east city limit	End of second horizontal curve	1.0	250	*			*		**	1 250
22	9.1	Walsh 9	Intersection with US 81	Intersection with 155th Avenue	5.8	218	*	*				**	1 218
23	12.05	Walsh 12B	End gravel section	Begin gravel section	0.9	120		*		*		**	1 120
24	12.1	Walsh 12B	Intersection with 8th Street	Intersection with ND 17 / Park Street	0.1	700	*	*	*			**	0 700
25	12.17	Walsh 12A	Curve from 61st Street	End gravel section	0.4	320	*	*				**	0 320
26	4.06	Walsh 4	End pavement / begin gravel	Walsh / Pembina County Line	2.8	290	*		*			**	0 290
27	12.07	Walsh 12B	Curve from 131st Avenue	Curve into 134th Avenue	1.9	240	*	*				**	0 240
28	12.06	Walsh 12B	Begin gravel section	Curve into 66th Street	5.9	132					*	*	2 132
29	6.01	Walsh 6	Walsh / Nelson County Line	Intersection with 55th Street	1.0	500	*		*			*	1 500
30	9.09	Walsh 9	Intersection with ND 18	Intersection with US 81	9.0	391	*		*			*	1 391
31	15.02	Walsh 15	Intersection with ND 35	Intersection with 125th Avenue	8.0	387	*					*	1 387
32	14.01	Walsh 14	Walsh / Nelson County Line	Intersection with 62nd Street	8.0	305	*					*	1 305
33	15.01	Walsh 15	Walsh / Ramsey County Line	Intersection with ND 35	7.0	305	*					*	1 305
34	12.03	Walsh 12B	Fordville north city limit (intersection with 56th Street)	Begin gravel section	2.0	260	*					*	1 260
35	504.01	No designation	Intersection with Westwood Drive (west of Grafton)	Intersection with School Road	2.2	160	*					*	1 160
36	8.02	Walsh 8	End pavement / begin gravel	Curve into 67th Street	4.0	120			*			*	1 120
37	16.03	Walsh 16	Intersection with 74th Street	Walsh/Cavalier County Line	4.0	110		*				*	1 110
38	15.14	Walsh 15	Intersection with NB IH 29 Ramps	Intersection with 158th Drive	0.1	80			*			*	1 80
39	1.01	Walsh 1A	Hoople east city limit (approx 400 feet east of intersection with Dale Avenue)	Intersection with ND 18	0.4	515			*			*	0 515
40	19.02	Walsh 19	Intersection with ND 35	Intersection with ND 32	12.0	393	*					*	0 393
41	1.02	Walsh 1B	Hoople east city limit (Intersection with Glendale Avenue)	Intersection with ND 18	0.5	390	*					*	0 390
42	12.16	Walsh 12A	Curve from 136th Street	Curve into 135th Avenue	0.8	320	*					*	0 320
43	19.01	Walsh 19	Walsh / Ramsey County Line	Intersection with ND 35	7.0	303	*					*	0 303
46	12.08	Walsh 12B	Curve from 36th Street	Park River south city limit (intersection with 67th Street)	1.3	195	*					*	0 195
46	503.01	No designation	Intersection with 69th Place (west of Grafton)	End of north/south segment	1.5	160	*					*	0 160
47	9.12	Walsh 9	Intersection with SB IH 29 Ramps	Intersection with NB IH 29 Ramps	0.1	90			*			*	0 90
48	4.02	Walsh 4	Begin tangent section after curve from 155th Avenue	Begin curve into 156th Avenue	0.8	85						*	0 85
56	4.03	Walsh 4	Begin curve from 66th Street	Intersection with ND 17	3.0	85						*	0 85
					Total Stars --	38		17	15	8	9		
					% That Gets Star --	78%		35%	31%	16%	18%		

#	%	%
*****	0	0%
****	1	2%
***	10	20%
**	17	35%
*	19	39%
	2	4%
	49	100%

Stars
ADT Range - If segment has an ADT in the range of most at risk ADT based on Northeast totals. (150 < ADT < 500)
Lane Departure Density - If segment has higher lane departure density than the Northeast average (0.032).
Access Density - If segment has access density than the nationwide average (8).
Curve Critical Radius Density - If segment has higher density of curves with critical radius than the Northeast average (0.084).
Edge Risk Assessment - Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 19 from Curve from 56th Street (approx. 4.5 miles east of ND 32) to Intersection with ND 18****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Curve from 56th Street (approx.)
End: Intersection with ND 18
Facility Type: 2-Lane
ADT: 390
Road Type Rural Paved
County Road Walsh 19Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 7.8
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	3	0
Density (per mile per year)	0.15	0.08	0.00
Rate (per MVM)	1.08	0.54	0.00

	Value	Critical	Road
ADT Range	390	150≤ADT≤500	★
RD Density	0.077	0.032	★
Access Density	4.8	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	3	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	7.8	\$3,120	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,808
Local Match (10% of Total project cost)	\$312
Total Project Cost	\$3,120

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 1
Segment ID: 19.06
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 15 from Curve from 142nd Avenue to Intersection with US 81****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Curve from 142nd Avenue
End: Intersection with US 81
Facility Type: 2-Lane
ADT: 611
Road Type Rural Paved
County Road Walsh 15Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 8.6
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	4	1
Density (per mile per year)	0.14	0.09	0.02
Rate (per MVM)	0.63	0.42	0.10

	Value	Critical	Road
ADT Range	611	150≤ADT≤500	
RD Density	0.093	0.032	★
Access Density	6.5	8.0	
Curve Critical Radius Density	0.117	0.084	★
Edge Risk	2	2 or 3	★
		★★★	

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	8.6	\$5,590	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$5,031
Local Match (10% of Total project cost)	\$559
Total Project Cost	\$5,590

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 2
Segment ID: 15.09
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 9 from Intersection with 119th Avenue to Edinburg west city limit (intersection with 5th Street)****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Intersection with 119th Avenue
End: Edinburg west city limit (inters)
Facility Type: 2-Lane
ADT: 440
Road Type Rural Paved
County Road Walsh 9Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 10.0
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	2	0
Density (per mile per year)	0.12	0.04	0.00
Rate (per MVM)	0.75	0.25	0.00

	Value	Critical	Road
ADT Range	440	150≤ADT≤500	★
RD Density	0.040	0.032	★
Access Density	6.6	8.0	
Curve Critical Radius Density	0.200	0.084	★
Edge Risk	2	2 or 3	★

★★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost
4" Edge Lines	Proactive	\$400	10.0	\$4,000
6" Edge Lines	Proactive	\$650	0.0	\$0
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0
6" Center Line	Proactive	\$650	0.0	\$0

Notes - Qualifies for edge line rumble. Curve projects suggested on other sheets.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,600
Local Match (10% of Total project cost)	\$400
Total Project Cost	\$4,000

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 3
Segment ID: 9.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 12 from Park River north city limit (5-leg intersection) to Walsh / Pembina County Line**

Agency Name: Walsh County

ND DOT District: 6

Contact Name: Sharon Lipsh

Telephone Number: 701-352-1530

Email Address: slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Park River north city limit (5-lc
End: Walsh / Pembina County Line
Facility Type: 2-Lane
ADT: 426
Road Type Rural Paved
County Road Walsh 12Lane Width: 12'
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 8.8
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	10	0	1
Density (per mile per year)	0.23	0.00	0.02
Rate (per MVM)	1.46	0.00	0.15

	Value	Critical	Road
ADT Range	426	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	7.3	8.0	
Curve Critical Radius Density	0.227	0.084	★
Edge Risk	2	2 or 3	★
		★★★	

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Curve projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	8.8	\$5,720	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$5,148
Local Match (10% of Total project cost)	\$572
Total Project Cost	\$5,720

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 4
Segment ID: 12.14
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 15 from Intersection with ND 32 to Pisek west city limit (intersection with Sunset Avenue)**

Agency Name: Walsh County

ND DOT District: 6

Contact Name: Sharon Lipsh

Telephone Number: 701-352-1530

Email Address: slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Intersection with ND 32
End: Pisek west city limit (intersect)
Facility Type: 2-Lane
ADT: 370
Road Type Rural Paved
County Road Walsh 15Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 6.7
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	4	3	1
Density (per mile per year)	0.12	0.09	0.03
Rate (per MVM)	0.88	0.66	0.22

	Value	Critical	Road
ADT Range	370	150≤ADT≤500	★
RD Density	0.089	0.032	★
Access Density	7.4	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	6.7	\$2,680	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$2,412
Local Match (10% of Total project cost)	\$268
Total Project Cost	\$2,680

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 5
Segment ID: 15.05
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 12B from Begin gravel section to End gravel section****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Begin gravel section
End: End gravel section
Facility Type: 2-Lane
ADT: 260
Road Type Rural Paved
County Road Walsh 12BLane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 1.4
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.29	0.14	0.00
Rate (per MVM)	3.01	1.51	0.00

	Value	Critical	Road
ADT Range	260	150≤ADT≤500	★
RD Density	0.146	0.032	★
Access Density	6.6	8.0	
Curve Critical Radius Density	0.000	0.084	
Edge Risk	2	2 or 3	★
			★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$400	1.4	\$560	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$504
Local Match (10% of Total project cost)	\$56
Total Project Cost	\$560

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 6
Segment ID: 12.04
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 19 from Intersection with ND 32 to Fordville west city limit****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Intersection with ND 32
End: Fordville west city limit
Facility Type: 2-Lane
ADT: 410
Road Type Rural Paved
County Road Walsh 19Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.5
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	5	1	0
Density (per mile per year)	0.40	0.08	0.00
Rate (per MVM)	2.67	0.53	0.00

	Value	Critical	Road
ADT Range	410	150≤ADT≤500	★
RD Density	0.079	0.032	★
Access Density	7.1	8.0	
Curve Critical Radius Density	1.190	0.084	★
Edge Risk	1	2 or 3	
		★ ★ ★	

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	2.5	\$1,625	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,463
Local Match (10% of Total project cost)	\$163
Total Project Cost	\$1,625

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 7
Segment ID: 19.03
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 9 from Intersection with SH 32 to Intersection with SH 18****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Intersection with SH 32
End: Intersection with SH 18
Facility Type: 2-Lane
ADT: 353
Road Type Rural Paved
County Road Walsh 9Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 11.1
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	12	4	0
Density (per mile per year)	0.22	0.07	0.00
Rate (per MVM)	1.68	0.56	0.00

	Value	Critical	Road
ADT Range	353	150≤ADT≤500	★
RD Density	0.072	0.032	★
Access Density	6.7	8.0	
Curve Critical Radius Density	0.271	0.084	★
Edge Risk	1	2 or 3	
		★ ★ ★	

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	11.1	\$4,440	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,996
Local Match (10% of Total project cost)	\$444
Total Project Cost	\$4,440

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 8
Segment ID: 9.08
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 12B from Walsh/Grand Forks County Line to Fordville south city limit (intersection with 55th Street that tees in from east)**

Agency Name: Walsh County

ND DOT District: 6

Contact Name: Sharon Lipsh

Telephone Number: 701-352-1530

Email Address: slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Walsh/Grand Forks County Li
End: Fordville south city limit (inter:
Facility Type: 2-Lane
ADT: 340
Road Type Rural Paved
County Road Walsh 12BLane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 1.0
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	6	1	0
Density (per mile per year)	1.20	0.20	0.00
Rate (per MVM)	9.67	1.61	0.00

	Value	Critical	Road
ADT Range	340	150≤ADT≤500	★
RD Density	0.201	0.032	★
Access Density	11.0	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	1	2 or 3	

★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	1.0	\$400	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$360
Local Match (10% of Total project cost)	\$40
Total Project Cost	\$400

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 9
Segment ID: 12.01
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 4 from Intersection with County Road 11 / 70th Street to End pavement / begin gravel****Agency Name:** Walsh County**ND DOT District:** 6**Contact Name:** Sharon Lipsh**Telephone Number:** 701-352-1530**Email Address:** slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Intersection with County Road 11
End: End pavement / begin gravel
Facility Type: 2-Lane
ADT: 281
Road Type Rural Paved
County Road Walsh 4Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 4.5
Rumble Installed: No**SHSP Emphasis Area (check all that apply)**

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	2	0	0
Density (per mile per year)	0.09	0.00	0.00
Rate (per MVM)	0.87	0.00	0.00

	Value	Critical	Road
ADT Range	281	150≤ADT≤500	★
RD Density	0.000	0.032	
Access Density	12.7	8.0	★
Curve Critical Radius Density	1.114	0.084	★
Edge Risk	1	2 or 3	
		★ ★ ★	

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble. Curve and intersection projects suggested on other sheets.
4" Edge Lines	Proactive	\$400	4.5	\$1,800	
6" Edge Lines	Proactive	\$650	0.0	\$0	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,620
Local Match (10% of Total project cost)	\$180
Total Project Cost	\$1,800

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 10
Segment ID: 4.05
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Walsh 8 from Begin tangent section after curve from 62nd Street to End pavement / begin gravel**

Agency Name: Walsh County

ND DOT District: 6

Contact Name: Sharon Lipsh

Telephone Number: 701-352-1530

Email Address: slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionStart: Begin tangent section after cu
End: End pavement / begin gravel
Facility Type: 2-Lane
ADT: 275
Road Type Rural Paved
County Road Walsh 8Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 1.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☒
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase Survivability
-
- ☐
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	Total	Road Dept	K+A
Crashes	1	1	0
Density (per mile per year)	0.11	0.11	0.00
Rate (per MVM)	1.05	1.05	0.00

	Value	Critical	Road
ADT Range	275	150≤ADT≤500	★
RD Density	0.107	0.032	★
Access Density	10.2	8.0	★
Curve Critical Radius Density	0.000	0.084	
Edge Risk	1	2 or 3	

★★★

**Describe Proposed Safety Improvements**

Description	Type	Cost per mi	Mileage	Cost	Notes - Qualifies for edge line rumble.
4" Edge Lines	Proactive	\$400	0.0	\$0	
6" Edge Lines	Proactive	\$650	1.9	\$1,235	
Edge Rumble Strip	Proactive	\$3,500	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$8,500	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,000	0.0	\$0	
6" Center Line	Proactive	\$650	0.0	\$0	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,112
Local Match (10% of Total project cost)	\$124
Total Project Cost	\$1,235

NDDOT Central Office Only

Project Accepted?

☐ Yes☐ No

Reference Number

ID Number

Notes

Page: 11
Segment ID: 8.01
Date: 10/23/2013

Walsh County Curves

Curve Count	ID	Corridor	Segment	Start	End	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes				Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
									Total	Total Severe	K	A							
1	004A	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	Yes	Yes	Yes	-	-	-	-	1200	281	Yes	No	High	**	Seems to be only one chevron, in the northbound direction
2	004B	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	Yes	Yes	Yes	-	-	-	-	1400	281	No	No	High	*	
3	004C	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	Yes	Yes	No	-	-	-	-	1500	281	No	No	High	*	
4	004D	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	No	No	No	-	-	-	-	1300	281	No	Yes	High	*	
5	004E	4.05	Walsh 4	Intersection with County Road 11 / 70th Street	End pavement / begin gravel	No	No	No	-	-	-	-	260	281	No	Yes	High	*	
7	008A	9.03	Walsh 9	Intersection with 119th Avenue	Edinburg west city limit (intersection with 5th Street)	Yes	Yes	Yes	-	-	-	-	1330	440	No	No	High	*	
8	009B	9.03	Walsh 9	Intersection with 119th Avenue	Edinburg west city limit (intersection with 5th Street)	Yes	Yes	Yes	-	-	-	-	1330	440	Yes	Yes	High	***	
9	009D	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	Yes	Yes	Yes	1	-	-	-	550	353	No	No	High	**	
10	009E	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	Yes	Yes	Yes	-	-	-	-	300	353	Yes	Yes	High	***	
11	009F	9.08	Walsh 9	Intersection with SH 32	Intersection with SH 18	Yes	Yes	Yes	-	-	-	-	650	353	Yes	No	High	***	
12	012A	12.14	Walsh 12	Park River north city limit (5-leg intersection)	Walsh / Pembina County Line	Yes	No	No	-	-	-	-	1150	426	Yes	Yes	Low	****	
13	012B	12.14	Walsh 12	Park River north city limit (5-leg intersection)	Walsh / Pembina County Line	Yes	No	No	1	-	-	-	1200	426	Yes	Yes	Low	****	
14	012F	12.05	Walsh 12B	End gravel section	Begin gravel section	Yes	No	Yes	1	-	-	-	990	120	No	No	Low	*	
15	012G	12.05	Walsh 12B	End gravel section	Begin gravel section	Yes	No	Yes	-	-	-	-	740	120	Yes	No	Low	***	
16	012H	12.05	Walsh 12B	End gravel section	Begin gravel section	Yes	No	No	-	-	-	-	730	120	No	No	Low	*	
17	012J	12.05	Walsh 12B	End gravel section	Begin gravel section	Yes	No	Yes	-	-	-	-	600	120	No	No	Low	*	
18	015A	15.09	Walsh 15	Curve from 142nd Avenue	Intersection with US 81	No	No	Yes	2	1	-	1	850	611	Yes	Yes	High	****	
19	019A	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	Yes	No	No	-	-	-	-	1800	410	No	No	High	*	
20	019B	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	Yes	No	No	-	-	-	-	2800	410	Yes	No	High	**	
21	019C	19.03	Walsh 19	Intersection with ND 32	Fordville west city limit	Yes	No	No	-	-	-	-	4000	410	No	No	High	*	
22	019E	19.05	Walsh 19	Fordville east city limit	End of second horizontal curve	Yes	No	Yes	-	-	-	-	1300	250	Yes	Yes	High	**	
23	019F	19.05	Walsh 19	Fordville east city limit	End of second horizontal curve	Yes	No	Yes	-	-	-	-	1440	250	Yes	Yes	High	**	

Total		
Stars	#	%
*****	1	5%
****	2	9%
***	3	14%
**	6	27%
*	8	36%
	2	9%
	22	100%

Critical Ranges	Min	Max
Radius	500	1200
ADT	350	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 4 from Intersection with County Road 11 / 70th Street to End pavement / begin gravel**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with County Road 11 / 70th
End: End pavement / begin gravel
Facility Type: 2-Lane
ADT: 281
Road Type Rural Paved
County Road Walsh 4

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 4.5
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
004A	0	0	1200	281	Yes	No	★★	x	x	Chevron	-	-	x	Inspect Curve
004B	0	0	1400	281	No	No		x	-	Chevron	-	-	-	-
004C	0	0	1500	281	No	No		x	-	Chevron	-	-	x	Inspect Curve
004D	0	0	1300	281	No	Yes	★	x	-	Chevron	-	-	-	-
004E	0	0	260	281	No	Yes	★	x	-	Chevron	-	-	x	Inspect Curve

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	5	\$16,500	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	3	\$2,400	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$18,900	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$17,010
Local Match (10% of Total project cost) \$1,890
Total Project Cost **\$18,900**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 9 from Intersection with 119th Avenue to Edinburg west city limit (intersection with 5th Street)**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with 119th Avenue
End: Edinburg west city limit (intersection w
Facility Type: 2-Lane
ADT: 440
Road Type Rural Paved
County Road Walsh 9

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 10.0
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
009A	0	0	1330	440	No	No	★	x	-	Chevron	-	-	-	-
009B	0	0	1350	440	Yes	Yes	★★★	x	-	Chevron	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	Notes - Segment projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$6,600	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$5,940
Local Match (10% of Total project cost) \$660
Total Project Cost **\$6,600**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 9 from Intersection with SH 32 to Intersection with SH 18**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Intersection with SH 32
End: Intersection with SH 18
Facility Type: 2-Lane
ADT: 353
Road Type Rural Paved
County Road Walsh 9

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 11.1
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
009D	0	0	550	353	No	No	★★	x	x	Chevron	-	-	x	40
009E	0	0	300	353	Yes	Yes	★★★	x	-	Chevron	-	-	x	35
009F	0	0	650	353	Yes	No	★★★	x	x	Chevron	-	-	x	40

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	3	\$9,900	Notes - Segment and intersection projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	3	\$2,400	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$12,300	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$11,070
Local Match (10% of Total project cost) \$1,230
Total Project Cost **\$12,300**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 12 from Park River north city limit (5-leg intersection) to Walsh / Pembina County Line**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Park River north city limit (5-leg intersection)
End: Walsh / Pembina County Line
Facility Type: 2-Lane
ADT: 426
Road Type Rural Paved
County Road Walsh 12

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: None
Length (miles): 8.8
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
012A	0	0	1150	426	Yes	Yes	★★★★	-	x	Chevron	-	-	x	-
012B	0	0	1200	426	Yes	Yes	★★★★	-	x	Chevron	-	-	x	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	Notes - Segment projects suggested on other sheets.
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	2	\$1,600	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$8,200	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$7,380
Local Match (10% of Total project cost) \$820
Total Project Cost **\$8,200**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 12B from End gravel section to Begin gravel section**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: End gravel section
End: Begin gravel section
Facility Type: 2-Lane
ADT: 120
Road Type Rural Paved
County Road Walsh 12B

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 0.9
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☒ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
012F	0	0	990	120	No	No	★	x	x	Chevron	-	-	x	50
012G	0	0	740	120	Yes	No	★★	x	x	Chevron	-	-	x	45
012H	0	0	730	120	No	No	★	x	x	Chevron	-	-	x	45
012I	0	0	800	120	No	No	★	x	x	Chevron	-	-	x	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,300 per curve	4	\$13,200	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	4	\$3,200	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$16,400	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$14,760
Local Match (10% of Total project cost) \$1,640
Total Project Cost **\$16,400**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 15 from Curve from 142nd Avenue to Intersection with US 81**

Agency Name: Walsh County

Contact Name: Sharon Lipsh

Email Address: slipsh@nd.gov

ND DOT District: 6

Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Curve from 142nd Avenue
End: Intersection with US 81
Facility Type: 2-Lane
ADT: 611
Road Type Rural Paved
County Road Walsh 15

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: None
Length (miles): 8.6
Rumble Installed: No

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☒ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
015A	0	1	960	611	Yes	Yes	★★★★★	x	x	Chevron	-	-	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria		Curves are selected for project if:
Severe Crashes	> 0	
Radius	500 to 1200	
ADT	350 to 650	
Intersection on Curve	Yes	
Visual Trap	Yes	- 3 or more ★s - x in Proximity or Existing Chevron column - within Critical Radius

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes - Segment and intersection projects suggested on other sheets.
Chevrons	Proactive	\$3,300 per curve	1	\$3,300	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	1	\$800	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$4,100	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$3,690
Local Match (10% of Total project cost) \$410
Total Project Cost **\$4,100**

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**Curves on Walsh 19 from Fordville east city limit to End of second horizontal curve**

Agency Name: Walsh County

ND DOT District: 6

Contact Name: Sharon Lipsh

Telephone Number: 701-352-1530

Email Address: slipsh@nd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Fordville east city limit	Lane Width: 12'	<input type="checkbox"/> SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
End: End of second horizontal curve	Speed Limit: High	
Facility Type: 2-Lane	Shoulder Width: 2'	
ADT: 250	Shoulder Type: Paved	
Road Type Rural Paved	Length (miles): 1.0	
County Road Walsh 19	Rumble Installed: No	

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
019E	0	0	1390	250	Yes	Yes	★★	x	-	Chevron	-	-	-	-
019F	0	0	1440	250	Yes	Yes	★★	x	-	Chevron	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

Criteria	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 350 to 650	- within Critical Radius
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,300 per curve	2	\$6,600	
Arrow Board Only	Proactive	\$500 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$800 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,000 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$37,000 per mile	.0 miles	\$0	
				\$6,600	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$5,940
Local Match (10% of Total project cost)	\$660
Total Project Cost	\$6,600

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

**Walsh County
Summary of Rural Intersection Projects**

Page	Intersection ID	Description	Risk Ranking	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Project Cost (\$)
1	19.09	US 81 & 55th St NE (Walsh 19)	★★★★★	-	x	x	\$7,850
2	12.07	136th Ave NE (Walsh 12) & 68th St NE/Park St/ND 17	★★★★	-	x	x	\$9,000
3	9.1	73rd St NE (Walsh 9) & US 81	★★★★	-	x	x	\$9,700
4	15.04	US 81 & 61st St NE (Walsh 15)	★★★★	x	x	x	\$59,700
5	19.08	US 81 & 55th St NE (Walsh 19)	★★★★	x	x	x	\$57,850
6	4.06	70th St NE & 155th Ave NE (Walsh 4)	★★★	-	-	x	\$1,150
7	9.08	75th St NE (Walsh 9) & 140th Ave NE/ND 18	★★★	-	x	x	\$9,000
8	15.02	128th Ave NE/ND 32 & 62nd St NE (Walsh 15)	★★★	x	x	x	\$59,700
9	1.02	77th St NE (Walsh 1) & ND 18	★★★	-	x	x	\$9,000
10	6.02	55th St NE (Walsh 19) & 146th Ave NE (Walsh 6)	★★★	-	-	x	\$6,700
11	9.06	75th St NE (Walsh 9) & 129th Ave NE/ND 32	★★★	-	x	x	\$9,000
12	11.01	69th St NE/ND 17 & [Unnamed] (Walsh 11)	★★★★	x	x	x	\$57,850
13	14.03	126th Ave NE (Walsh 14) & 68th St NE/ND 17	★★★	-	-	x	\$1,150
14	504.02	149th Ave NE (Walsh 504) & US 81	★★★	-	x	x	\$7,850
				4	11	14	\$305,500

**Walsh County
Rural Intersection Listing**

Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Crash Cost
1.01	77 1/2th St NE (Walsh 1) & ND 18	No	No	No	No	1340	No	3	Yes	\$ 848,000
1.02	77th St NE (Walsh 1) & ND 18	No	No	Yes	No	1443	Yes	0	Yes	\$ -
4.01	61st St NE (Walsh 15) & 156th Ave NE (Walsh 4)	No	No	Yes	No	580	Yes	0	No	\$ -
4.03	66th St NE & 155th Ave NE (Walsh 4)	No	No	No	No	114	No	0	No	\$ -
4.04	69th St NE/ND 17 & 156th Ave NE (Walsh 4)	No	No	No	No	1885	No	1	Yes	\$ 12,000
4.05	69th St NE/ND 17 & 155th Ave NE (Walsh 4)	No	No	No	No	2080	Yes	0	Yes	\$ -
4.06	70th St NE & 155th Ave NE (Walsh 4)	No	Yes	No	No	410	Yes	1	No	\$ 12,000
4.08	73rd St NE (Walsh 9) & 155th Ave NE (Walsh 4)	No	No	No	No	380	Yes	0	No	\$ -
6.02	55th St NE (Walsh 19) & 146th Ave NE (Walsh 6)	No	No	No	Yes	655	Yes	0	Yes	\$ -
6.03	61st St NE (Walsh 15) & 146th Ave NE (Walsh 6)	No	No	No	No	770	Yes	1	No	\$ 91,000
8.01	62nd St NE (Walsh 15) & 142nd Ave NE (Walsh 8)	No	No	No	No	422	Yes	0	No	\$ -
8.02	67th St NE & 142nd Ave NE (Walsh 8)	Yes	Yes	No	No	139	Yes	0	No	\$ -
8.03	62nd St NE & 144th Ave NE (Walsh 8)	No	No	No	No	139	Yes	0	No	\$ -
8.04	69th St NE/ND 17 & 144th Ave NE (Walsh 8)	No	No	No	No	2775	Yes	0	Yes	\$ -
8.05	73rd St NE (Walsh 9) & 144th Ave NE (Walsh 8)	No	No	No	No	505	No	0	No	\$ -
9.01	74th St NE (Walsh 9) & 112th Ave NE (Walsh 22)	No	No	No	No	375	Yes	0	No	\$ -
9.02	74th St NE (Walsh 9) & 119th Ave NE (Walsh 16)	No	No	No	No	330	Yes	0	No	\$ -
9.06	75th St NE (Walsh 9) & 129th Ave NE/ND 32	No	No	Yes	No	1280	Yes	0	Yes	\$ -
9.07	75th St NE (Walsh 9) & 135th Ave NE (Walsh 12)	No	No	No	No	660	Yes	0	Yes	\$ -
9.08	75th St NE (Walsh 9) & 140th Ave NE/ND 18	No	No	No	No	1427	Yes	1	Yes	\$ 12,000
9.09	73rd St NE (Walsh 9) & 140th Ave NE/ND 18	No	No	No	No	1265	Yes	0	Yes	\$ -
9.10	73rd St NE (Walsh 9) & US 81	Yes	No	No	Yes	1865	Yes	0	Yes	\$ -
11.01	69th St NE/ND 17 & [Unamed] (Walsh 11)	Yes	Yes	No	Yes	668	No	0	Yes	\$ -
11.02	ND 17 & 120th Ave NE/69th St NE (Walsh 11)	No	Yes	No	No	483	No	1	No	\$ 12,000
11.03	122nd Ave NE (Walsh 11) & ND 17	Yes	No	No	Yes	630	No	0	No	\$ -
12.02	131st Ave NE (Walsh 12) & 62nd St NE (Walsh 15)	No	No	No	No	505	Yes	0	No	\$ -
12.05	136th Ave NE (Walsh 12) & 56th St NE (Walsh 19)	No	No	No	No	222	Yes	0	No	\$ -
12.06	135th Ave NE (Walsh 12) & 62nd St NE (Walsh 15)	No	No	No	No	770	Yes	0	Yes	\$ -
12.07	136th Ave NE (Walsh 12) & 68th St NE/Park St/ND 17	No	No	Yes	No	3223	Yes	1	Yes	\$ 12,000
14.01	125th Ave NE (Walsh 14) & 58th St NE (Walsh 19)	No	No	No	No	198	Yes	0	No	\$ -
14.02	125th Ave NE (Walsh 14) & 62nd St NE (Walsh 15)	No	No	No	No	725	Yes	0	Yes	\$ -
14.03	126th Ave NE (Walsh 14) & 68th St NE/ND 17	Yes	Yes	No	No	820	Yes	0	No	\$ -
15.01	116th Ave NE/ND 35 & 62nd St NE (Walsh 15)	No	No	No	No	263	Yes	1	No	\$ 136,000
15.02	128th Ave NE/ND 32 & 62nd St NE (Walsh 15)	No	No	No	No	1198	Yes	1	Yes	\$ 12,000
15.03	139th Ave NE/ND 18 & 62nd St NE (Walsh 15)	No	No	No	No	880	No	0	Yes	\$ -
15.04	US 81 & 61st St NE (Walsh 15)	Yes	Yes	No	No	3065	Yes	0	Yes	\$ -
16.01	119th Ave NE/Kongsberg St (Walsh 16) & 69th St NE/ND 17	No	No	No	No	290	Yes	0	No	\$ -
16.02	County Rd 16/119th Ave NE (Walsh 16) & 78th St NE (Walsh 32)	No	No	No	No	100	Yes	1	No	\$ 12,000
19.01	116th Ave NE/ND 35 & 57th St NE (Walsh 19)	No	No	No	No	175	Yes	0	No	\$ -
19.02	116th Ave NE/ND 35 & 58th St NE (Walsh 19)	No	No	No	No	170	Yes	0	No	\$ -
19.03	128th Ave NE/ND 32 & 58th St NE (Walsh 19)	No	No	No	No	698	No	0	No	\$ -
19.04	128th Ave NE/ND 32 & 55th St NE (Walsh 19)	No	No	No	No	857	No	0	Yes	\$ -
19.05	139th Ave NE/ND 18 & 56th St NE (Walsh 19)	No	No	No	No	715	Yes	0	No	\$ -
19.08	US 81 & 55th St NE (Walsh 19)	Yes	Yes	No	No	1738	Yes	0	Yes	\$ -
19.09	US 81 & 55th St NE (Walsh 19)	Yes	Yes	No	No	1743	Yes	1	Yes	\$ 12,000
22.01	112th Ave NE (Walsh 22) & 69th St NE/ND 17	No	No	No	No	238	Yes	0	No	\$ -
32.01	116th Ave NE (Walsh 39) & 78th St NE (Walsh 32)	No	No	No	No	70	Unknown	0	No	\$ -
32.02	123rd Ave NE (Walsh 45) & 78th St NE (Walsh 32)	No	No	No	No	45	Unknown	0	No	\$ -
503.01	Woodcrest Dr (Walsh 503) & 69th St NE/W 5th St/69 1/2th St NE (Walsh 504)	No	No	No	No	195	No	0	No	\$ -
504.01	149th Ave NE (Walsh 504) & 61st St NE (Walsh 15)	Yes	Yes	No	No	375	No	0	No	\$ -
504.02	149th Ave NE (Walsh 504) & US 81	Yes	Yes	No	No	870	No	0	Yes	\$ -

Walsh County
Rural Intersection Prioritization

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Priority	Crash Cost
1	19.09	US 81 & 55th St NE (Walsh 19)	*	*			*	*	*	*****	\$ 12,000
2	12.07	136th Ave NE (Walsh 12) & 68th St NE/Park St/ND 17			*		*	*	*	*****	\$ 12,000
3	9.10	73rd St NE (Walsh 9) & US 81	*				*		*	*****	\$ -
4	11.01	69th St NE/ND 17 & [Unnamed] (Walsh 11)	*	*		*			*	*****	\$ -
5	15.04	US 81 & 61st St NE (Walsh 15)	*	*			*		*	*****	\$ -
6	19.08	US 81 & 55th St NE (Walsh 19)	*	*			*		*	*****	\$ -
7	4.06	70th St NE & 155th Ave NE (Walsh 4)		*			*	*		***	\$ 12,000
8	9.08	75th St NE (Walsh 9) & 140th Ave NE/ND 18					*	*	*	***	\$ 12,000
9	15.02	128th Ave NE/ND 32 & 62nd St NE (Walsh 15)					*	*	*	***	\$ 12,000
10	1.02	77th St NE (Walsh 1) & ND 18			*		*		*	***	\$ -
11	6.02	55th St NE (Walsh 19) & 146th Ave NE (Walsh 6)				*	*		*	***	\$ -
12*	8.02	67th St NE & 142nd Ave NE (Walsh 8)	*	*			*			***	\$ -
13	9.06	75th St NE (Walsh 9) & 129th Ave NE/ND 32			*		*		*	***	\$ -
14	14.03	126th Ave NE (Walsh 14) & 68th St NE/ND 17	*	*			*			***	\$ -
15	504.02	149th Ave NE (Walsh 504) & US 81	*	*					*	***	\$ -
16	1.01	77 1/2th St NE (Walsh 1) & ND 18						*	*	**	\$ 848,000
17	15.01	116th Ave NE/ND 35 & 62nd St NE (Walsh 15)					*	*		**	\$ 136,000
18	6.03	61st St NE (Walsh 15) & 146th Ave NE (Walsh 6)					*	*		**	\$ 91,000
19	4.04	69th St NE/ND 17 & 156th Ave NE (Walsh 4)						*	*	**	\$ 12,000
20	11.02	ND 17 & 120th Ave NE/69th St NE (Walsh 11)		*				*		**	\$ 12,000
21	16.02	County Rd 16/119th Ave NE (Walsh 16) & 78th St NE (Walsh 32)					*	*		**	\$ 12,000
22	4.01	61st St NE (Walsh 15) & 156th Ave NE (Walsh 4)			*		*			**	\$ -
23	4.05	69th St NE/ND 17 & 155th Ave NE (Walsh 4)					*		*	**	\$ -
24	8.04	69th St NE/ND 17 & 144th Ave NE (Walsh 8)					*		*	**	\$ -
25	9.07	75th St NE (Walsh 9) & 135th Ave NE (Walsh 12)					*		*	**	\$ -
26	9.09	73rd St NE (Walsh 9) & 140th Ave NE/ND 18					*		*	**	\$ -
27	11.03	122nd Ave NE (Walsh 11) & ND 17	*			*				**	\$ -
28	12.06	135th Ave NE (Walsh 12) & 62nd St NE (Walsh 15)					*		*	**	\$ -
29	14.02	125th Ave NE (Walsh 14) & 62nd St NE (Walsh 15)					*		*	**	\$ -
30	504.01	149th Ave NE (Walsh 504) & 61st St NE (Walsh 15)	*	*						**	\$ -
31	4.08	73rd St NE (Walsh 9) & 155th Ave NE (Walsh 4)					*			*	\$ -
32	8.01	62nd St NE (Walsh 15) & 142nd Ave NE (Walsh 8)					*			*	\$ -
33	8.03	62nd St NE & 144th Ave NE (Walsh 8)					*			*	\$ -
34	9.01	74th St NE (Walsh 9) & 112th Ave NE (Walsh 22)					*			*	\$ -
35	9.02	74th St NE (Walsh 9) & 119th Ave NE (Walsh 16)					*			*	\$ -
36	12.02	131st Ave NE (Walsh 12) & 62nd St NE (Walsh 15)					*			*	\$ -
37	12.05	136th Ave NE (Walsh 12) & 56th St NE (Walsh 19)					*			*	\$ -
38	14.01	125th Ave NE (Walsh 14) & 58th St NE (Walsh 19)					*			*	\$ -
39	15.03	139th Ave NE/ND 18 & 62nd St NE (Walsh 15)							*	*	\$ -
40	16.01	119th Ave NE/Kongsberg St (Walsh 16) & 69th St NE/ND 17					*			*	\$ -
41	19.01	116th Ave NE/ND 35 & 57th St NE (Walsh 19)					*			*	\$ -
42	19.02	116th Ave NE/ND 35 & 58th St NE (Walsh 19)					*			*	\$ -
43	19.04	128th Ave NE/ND 32 & 55th St NE (Walsh 19)							*	*	\$ -
44	19.05	139th Ave NE/ND 18 & 56th St NE (Walsh 19)					*			*	\$ -
45	22.01	112th Ave NE (Walsh 22) & 69th St NE/ND 17					*			*	\$ -
46	4.03	66th St NE & 155th Ave NE (Walsh 4)									\$ -
47	8.05	73rd St NE (Walsh 9) & 144th Ave NE (Walsh 8)									\$ -
48	19.03	128th Ave NE/ND 32 & 58th St NE (Walsh 19)									\$ -
49	32.01	116th Ave NE (Walsh 39) & 78th St NE (Walsh 32)									\$ -
50	32.02	123rd Ave NE (Walsh 45) & 78th St NE (Walsh 32)									\$ -
58	503.01	Woodcrest Dr (Walsh 503) & 69th Pl NE/W 5th St/69 1/2th St NE (Walsh 504)									\$ -

Totals	#	%
*****	0	0%
*****	0	0%
*****	1	2%
*****	5	10%
****	9	18%
***	15	29%
**	15	29%
*	6	12%
-	51	100%

Total Stars --	10	10	4	4	36	11	22
	20%	20%	8%	8%	71%	22%	43%
Stars							
Skew	If intersection is skewed at an angle of 20 degrees or greater.						
On/Near Curve	If intersection is on or within 1,000 feet of curve.						
Development	If intersection aerial shows a commercial development with access near intersection.						
RR Xing	If intersection has a railroad crossing on any approach within 500 feet.						
Previous STOP (>5 mi)	If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles						
Total Crashes	If intersection has at least 1 crash.						
ADT Cross Product	If intersection has an ADT cross product >100,000						

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**US 81 & 55th St NE (Walsh 19)****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1648
Entering ADT: 1743 Minor Entering ADT: 190

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$7,850.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,065
Local Match (10% of Total project cost) \$785
Total Project Cost **\$7,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**136th Ave NE (Walsh 12) & 68th St NE/Park St/ND 17****Agency Name: Walsh County****Contact Name: Sharon Lipsh****Email Address: slipsh@nd.gov****ND DOT District: 6****Telephone Number: 701-352-1530**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 2938
Entering ADT: 3223 Minor Entering ADT: 285

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

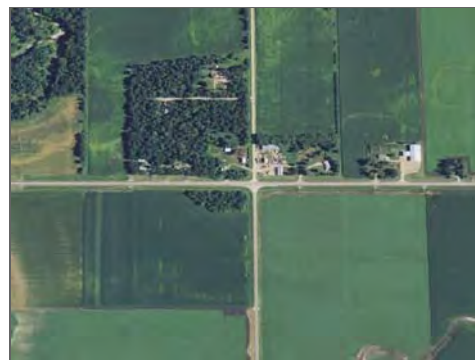
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.2	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
★★★★			

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**73rd St NE (Walsh 9) & US 81****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1593
Entering ADT: 1865 Minor Entering ADT: 273

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$9,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,730
Local Match (10% of Total project cost) \$970
Total Project Cost **\$9,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**69th St NE/ND 17 & [Unnamed] (Walsh 11)****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 478
Entering ADT: 668 Minor Entering ADT: 380

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$57,850.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$52,065
Local Match (10% of Total project cost) \$5,785
Total Project Cost **\$57,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**US 81 & 61st St NE (Walsh 15)****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: Thru-Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 2225
Entering ADT: 3065 Minor Entering ADT: 840

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$59,700.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$53,730
Local Match (10% of Total project cost) \$5,970
Total Project Cost **\$59,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**US 81 & 55th St NE (Walsh 19)****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1585
Entering ADT: 1738 Minor Entering ADT: 305

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$57,850.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$52,065
Local Match (10% of Total project cost) \$5,785
Total Project Cost **\$57,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**70th St NE & 155th Ave NE (Walsh 4)****Agency Name:** Walsh County
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District:** 6
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: Yield
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 305
Entering ADT: 410 Minor Entering ADT: 210

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	1.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	1	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Qualifies for a street light. Option to replace yield signs instead of STOP signs. Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$1,150.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$1,035
Local Match (10% of Total project cost) \$115
Total Project Cost **\$1,150****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**75th St NE (Walsh 9) & 140th Ave NE/ND 18****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1175
Entering ADT: 1427 Minor Entering ADT: 252

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

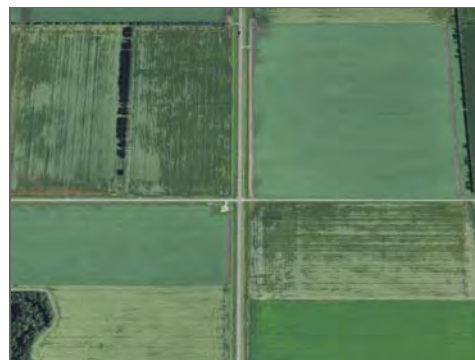
North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.4	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**128th Ave NE/ND 32 & 62nd St NE (Walsh 15)****Agency Name: Walsh County****Contact Name: Sharon Lipsh****Email Address: slipsh@nd.gov****ND DOT District: 6****Telephone Number: 701-352-1530**

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 820
Entering ADT: 1198 Minor Entering ADT: 378

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.5	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
			★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	1	\$50,000.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	2	\$900.00	
Upgrade Stop Bar	\$250 per marking	2	\$500.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$59,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$53,730
Local Match (10% of Total project cost) \$5,970
Total Project Cost **\$59,700****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**77th St NE (Walsh 1) & ND 18****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1223
Entering ADT: 1443 Minor Entering ADT: 220

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

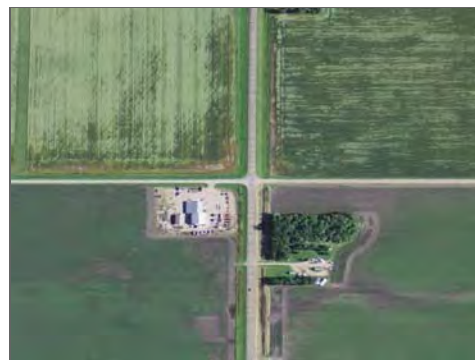
North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

Page: 10
Intersection ID: 1.02
Date: 10/23/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**55th St NE (Walsh 19) & 146th Ave NE (Walsh 6)****Agency Name: Walsh County****Contact Name: Sharon Lipsh****Email Address: slipsh@nd.gov****ND DOT District: 6****Telephone Number: 701-352-1530**

Please attach a location map(s). You may use additional sheets to further describe your project

Location Description

Configuration: X Traffic Control Device: All-way STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 345
Entering ADT: 655 Minor Entering ADT: 310

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

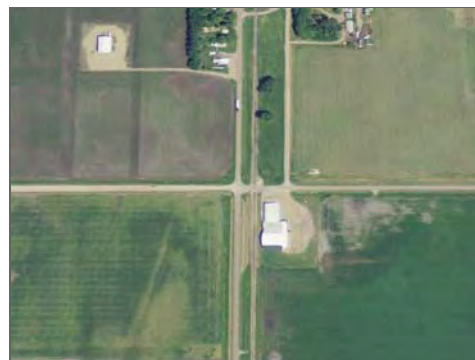
North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Qualifies for a street light..
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	4	\$1,400.00	
Upgrade Junction Sign	\$350 per sign	4	\$1,400.00	
Upgrade Stop Ahead Sign	\$450 per sign	4	\$1,800.00	
Upgrade Stop Ahead Marking	\$450 per marking	3	\$1,350.00	
Upgrade Stop Bar	\$250 per marking	3	\$750.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$6,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds \$6,030
Local Match (10% of Total project cost) \$670
Total Project Cost **\$6,700**

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**75th St NE (Walsh 9) & 129th Ave NE/ND 32****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: X Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1150
Entering ADT: 1280 Minor Entering ADT: 130

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes - Segment and curve projects suggested on other sheets.
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	2	\$700.00	
Upgrade Junction Sign	\$350 per sign	2	\$700.00	
Upgrade Stop Ahead Sign	\$450 per sign	2	\$900.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$9,000.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$8,100
Local Match (10% of Total project cost) \$900
Total Project Cost **\$9,000****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**126th Ave NE (Walsh 14) & 68th St NE/ND 17****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: thru-STOP
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 800
Entering ADT: 820 Minor Entering ADT: 40

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	

★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	0	\$0.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	0	\$0.00	
Upgrade Stop Bar	\$250 per marking	0	\$0.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
				\$1,150.00

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$1,035
Local Match (10% of Total project cost) \$115
Total Project Cost **\$1,150****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**149th Ave NE (Walsh 504) & US 81****Agency Name: Walsh County**
Contact Name: Sharon Lipsh
Email Address: slipsh@nd.gov**ND DOT District: 6**
Telephone Number: 701-352-1530

Please attach a location map(s). You may use additional sheets to further describe your project

Location DescriptionConfiguration: T Traffic Control Device: Thru Stop
Configuration (2): Undivided Street Lights: No
Urban/Rural: Rural Flashers: No
County: Walsh Major Entering ADT: 1740
Entering ADT: 870 Minor Entering ADT: 160

- SHSP Emphasis Area (check all that apply)
- ☐ Reduce Alcohol Impaired Driving
 - ☐ Increase the Use of Safety Restraints for all Occupants
 - ☐ Younger Driver/Older Driver Safety
 - ☐ Curb Aggressive Driving
 - ☐ Improvements to Address Lane Departure Crashes
 - ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
 - ☒ Improve Intersection Safety

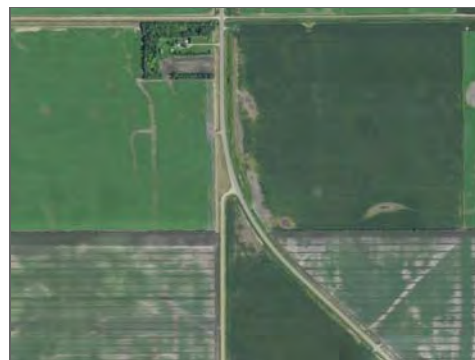
Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

5 years

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	★★★

**Describe Proposed Safety Improvements**

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$1,000,000 per intersection	0	\$0.00	
Directional Median	\$750,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$50,000 per intersection	0	\$0.00	
Close Median	\$25,000 per intersection	0	\$0.00	
Installing Street Lights	\$6,000 per street light	1	\$6,000.00	
Upgrade Stop Sign	\$350 per sign	1	\$350.00	
Upgrade Junction Sign	\$350 per sign	1	\$350.00	
Upgrade Stop Ahead Sign	\$450 per sign	1	\$450.00	
Upgrade Stop Ahead Marking	\$450 per marking	1	\$450.00	
Upgrade Stop Bar	\$250 per marking	1	\$250.00	
Review Signs and CST	\$2,450 per intersection	0	\$0.00	
			\$7,850.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**Federal Funds \$7,065
Local Match (10% of Total project cost) \$785
Total Project Cost **\$7,850****NDDOT Central Office Only**Project Accepted? ☐ Yes ☐ No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

APPENDIX 4F
City of Devils Lake

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**5th Ave SE from City Limit to 1st St NE Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvInd.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 805.01
Local Road Name: 5th Ave SE
Start: City Limit
End: 1st St NE
City/Rural: Urban
County: RamseyADT: 6478
Lanes: 4
Access Density: 48
Speed Limit: 25
Length (miles): 0.6

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	1
	1

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	6,478	$\geq 10,000$	★
Major Approach Lanes:	4	≥ 4	★
Access Density:	48	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	1	≥ 1	★
			★★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - Do not convert
3-Lane Conversion	Proactive	\$17,000	0.5	\$8,160	South of US 2. Ped/bike
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	projects suggested on other
Signal Revisions	Proactive	\$25,000	0	\$0	sheets.
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$7,344
Local Match (10% of Total project cost)	\$816
Total Project Cost	\$8,160

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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Segment ID: 805.01
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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**College Dr from Hwy 19 W to 14th St NE Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvInd.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 834.03
Local Road Name: College Dr
Start: Hwy 19 W
End: 14th St NE
City/Rural: Urban
County: RamseyADT: 7050
Lanes: 3
Access Density: 41
Speed Limit: 30
Length (miles): 0.7

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	1
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	1

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	7,050	$\geq 10,000$	★
Major Approach Lanes:	3	≥ 4	★
Access Density:	41	15 - 60	
Speed Limit:	30	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	1	≥ 1	★
			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.2	\$2,975	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	1	\$25,000	
Consider Access Management in the Future				No	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$25,178
Local Match (10% of Total project cost)	\$2,798
Total Project Cost	\$27,975

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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Segment ID: 834.03
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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**College Dr from US 2 to Hwy 19W Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 834.02
Local Road Name: College Dr
Start: US 2
End: Hwy 19W
City/Rural: Urban
County: RamseyADT: 3431
Lanes: 4
Access Density: 30
Speed Limit: 30
Length (miles): 1.3

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	1
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	1

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	3,431	$\geq 10,000$	
Major Approach Lanes:	4	≥ 4	★
Access Density:	30	15 - 60	
Speed Limit:	30	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	1	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - Right angle and ped/bike projects suggested on other sheets.
3-Lane Conversion	Proactive	\$17,000	1.3	\$22,100	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	2	\$50,000	
Consider Access Management in the Future				No	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$64,890
Local Match (10% of Total project cost)	\$7,210
Total Project Cost	\$72,100

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

10th Ave SE from 17th St SE to Frontage Rd Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 807.01
Local Road Name: 10th Ave SE
Start: 17th St SE
End: Frontage Rd
City/Rural: Urban
County: Ramsey

ADT: 528
Lanes: 2
Access Density: 82
Speed Limit: 25
Length (miles): 0.5

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	528	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	82	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.5	\$8,500	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$7,650
Local Match (10% of Total project cost)	\$850
Total Project Cost	\$8,500

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

5th St SE from College Dr S to 12th Ave SE Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 808.01
Local Road Name: 5th St SE
Start: College Dr S
End: 12th Ave SE
City/Rural: Urban
County: Ramsey

ADT: 1333
Lanes: 2
Access Density: 60
Speed Limit: 25
Length (miles): 0.8

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	1,333	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	60	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.8	\$13,600	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$12,240
Local Match (10% of Total project cost)	\$1,360
Total Project Cost	\$13,600

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**3rd St NE from Railroad Ave to 6th Ave NE Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 813.01
Local Road Name: 3rd St NE
Start: Railroad Ave
End: 6th Ave NE
City/Rural: Urban
County: RamseyADT: 2045
Lanes: 2
Access Density: 80
Speed Limit: 25
Length (miles): 0.2

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	2,045	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	80	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.2	\$3,400	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,060
Local Match (10% of Total project cost)	\$340
Total Project Cost	\$3,400

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**7th St NE from College Dr N to 12th Ave NE Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvInd.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 817.01
Local Road Name: 7th St NE
Start: College Dr N
End: 12th Ave NE
City/Rural: Urban
County: RamseyADT: 1443
Lanes: 2
Access Density: 80
Speed Limit: 25
Length (miles): 0.8

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	1,443	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	80	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.8	\$13,600	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	1	\$25,000	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$34,740
Local Match (10% of Total project cost)	\$3,860
Total Project Cost	\$38,600

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

12th Ave SE from Frontage Rd to Walnut St SE Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 810.01
Local Road Name: 12th Ave SE
Start: Frontage Rd
End: Walnut St SE
City/Rural: Urban
County: Ramsey

ADT: 3270
Lanes: 2
Access Density: 60
Speed Limit: 25
Length (miles): 0.5

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	3,270	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	60	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.5	\$8,500	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$7,650
Local Match (10% of Total project cost)	\$850
Total Project Cost	\$8,500

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

12th Ave NE from Walnut St E to 7th St NE Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 822.01
Local Road Name: 12th Ave NE
Start: Walnut St E
End: 7th St NE
City/Rural: Urban
County: Ramsey

ADT: 1022
Lanes: 2
Access Density: 58
Speed Limit: 25
Length (miles): 0.5

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	1,022	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	58	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.5	\$8,500	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	1	\$25,000	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$30,150
Local Match (10% of Total project cost)	\$3,350
Total Project Cost	\$33,500

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

3rd Ave NE from 4th St NE to 6th St NE Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 819.01
Local Road Name: 3rd Ave NE
Start: 4th St NE
End: 6th St NE
City/Rural: Urban
County: Ramsey

ADT: 1082
Lanes: 2
Access Density: 110
Speed Limit: 25
Length (miles): 0.1

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	1,082	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	110	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.1	\$1,700	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,530
Local Match (10% of Total project cost)	\$170
Total Project Cost	\$1,700

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)**10th Ave NE from 7th St NE to 10th St NE Project**Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.comND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionNumber: 824.01
Local Road Name: 10th Ave NE
Start: 7th St NE
End: 10th St NE
City/Rural: Urban
County: RamseyADT: 1195
Lanes: 2
Access Density: 70
Speed Limit: 25
Length (miles): 0.2

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	1,195	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	70	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.2	\$3,400	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$3,060
Local Match (10% of Total project cost)	\$340
Total Project Cost	\$3,400

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

2nd St NE from 5th Ave NE to 6th Ave NE Project

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvlnl.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 812.01
Local Road Name: 2nd St NE
Start: 5th Ave NE
End: 6th Ave NE
City/Rural: Urban
County: Ramsey

ADT: 365
Lanes: 2
Access Density: 90
Speed Limit: 25
Length (miles): 0.1

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	365	$\geq 10,000$	
Major Approach Lanes:	2	≥ 4	
Access Density:	90	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
			★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes -
3-Lane Conversion	Proactive	\$17,000	0.1	\$1,700	
5-Lane Conversion	Proactive	\$22,000	0.0	\$0	
Signal Revisions	Proactive	\$25,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$1,530
Local Match (10% of Total project cost)	\$170
Total Project Cost	\$1,700

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Project Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number -	ID Number -
Notes --		

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23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on US 2 from Summer St NW to Hwy 19W

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 832.01
Street Name US 2
Urban/Rural: Urban
County: Ramsey
Length 2.0

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Enterting ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
825.01	Summer St NW	US 2	T	Thru-STOP	2,440	Undivided	0	0	0	Ped/bike projects suggested on other sheets.
832.01	US 2	Hwy 19 W	X	Signal	7,830	Divided	1	0	1	Ped/bike projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Confirmation Lights	\$1,000 per intersection	1	\$1,000
Entering ADT	>7,500	Unsignalized and Divided Access Management	\$300,000 per mile	2.0	\$600,000
Road Geometry	Divided	*Corridor includes 2 miles of divided roadway.			\$601,000
Severe Crashes	>0				

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$540,900
Local Match (10% of Total project cost)	\$60,100
Total Project Cost	\$601,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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Intersection ID: 832.01
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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on US 2 from Hwy 19W to College Dr

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 832.02
Street Name US 2
Urban/Rural: Urban
County: Ramsey
Length 1.4

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
832.02	US 2	College Dr	X	Signal	11,708	Divided	3	0	1	Ped/bike projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Confirmation Lights	\$1,000 per intersection	1	\$1,000
Entering ADT	>7,500	Unsignalized and Divided Access Management	\$300,000 per mile	0.0	\$0
Road Geometry	Divided	*Corridor includes miles of divided roadway.			\$1,000
Severe Crashes	>0				

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$900
Local Match (10% of Total project cost)	\$100
Total Project Cost	\$1,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on US 2 from College Dr to 12th Ave SE

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 832.03
Street Name US 2
Urban/Rural: Urban
County: Ramsey
Length 2.0

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
☐ Increase the Use of Safety Restraints for all Occupants
☐ Younger Driver/Older Driver Safety
☐ Curb Aggressive Driving
☐ Improvements to Address Lane Departure Crashes
☐ Enhancing Emergency Medical Capabilities to Increase
☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Enterting ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
805.01	5th Ave SE	US 2	X	Signal	8,750	Divided	0	0	1	None
806.01	8th Ave SE	US 2	X	Thru-STOP	6,303	Divided	0	0	0	None
807.01	10th Ave SE	US 2	X	Thru-STOP	4,935	Divided	0	0	0	None
810.01	12th Ave SE	US 2	X	Thru-STOP	7,165	Undivided	0	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Confirmation Lights	\$1,000 per intersection	1	\$1,000
Entering ADT	>7,500	Unsignalized and Divided Access Management	\$300,000 per mile	0.0	\$0
Road Geometry	Divided	*Corridor includes miles of divided roadway.			\$1,000
Severe Crashes	>0				

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$900
Local Match (10% of Total project cost)	\$100
Total Project Cost	\$1,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on College Dr from 5th St SE to Hwy 19W

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 834.02
Street Name College Dr
Urban/Rural: Urban
County: Ramsey
Length 1.3

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Enterting ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
808.01	5th St SE	College Dr S	T	Thru-STOP	3,480	Undivided	0	0	0	Segment and ped/bike projects suggested on other sheets.
833.01	US 2	College Dr	T	Signal	9,210	Undivided	0	0	1	Segment and ped/bike projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Confirmation Lights	\$1,000 per intersection	1	\$1,000
Entering ADT	>7,500	Unsignalized and Divided Access Management	\$300,000 per mile	0.0	\$0
Road Geometry	Divided	*Corridor includes 0 miles of divided roadway.			\$1,000
Severe Crashes	>0				

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$900
Local Match (10% of Total project cost)	\$100
Total Project Cost	\$1,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on 5th Ave SE from 5th Ave SE to 1st St NE

Agency Name: City of Devils Lake

Contact Name: Mike Grafsgaard

Email Address: mikeg@dlvnd.com

ND DOT District: 3

Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor: 805.01
Street Name: 5th Ave SE
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 6,478

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
801.02	Frontage Rd	5th Ave SE	Thru-STOP	1,270	Yes	1	0	0	0	0	Segment projects suggested on other sheets.
805.01	5th Ave SE	US 2	Signal	8,750	Yes	0	1	1	0	0	Segment projects suggested on other sheets.
802.01	Frontage Rd	Hwy 19 W	Thru-STOP	3,720	-	0	0	0	0	0	Segment projects suggested on other sheets.
805.02	5th Ave SE	5th St SE	Thru-STOP	7,000	-	1	0	0	2	0	Segment projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria			Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal		Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	>7,500		Countdown Timers	\$10,000 per intersection	1	\$10,000
Development / Ped Generator	Yes		Curb Extensions	\$15,000 per corner	2	\$30,000
Total Ped/Bike Crashes	>0		Median Refuge Island	\$10,000 per side	0	\$0
						\$40,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$36,000
Local Match (10% of Total project cost)	\$4,000
Total Project Cost	\$40,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on 5th Ave SE from 1st St NE to 7th St NE

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dlvnd.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor: 805.02
Street Name: 5th Ave SE
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 4,755

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
805.03	6th Ave NE	1st St NE	Thru-STOP	8,303	-	2	0	0	2	0	None
805.04	6th Ave NE	2nd St NE	Thru-STOP	6,488	-	0	0	0	3	1	None
805.05	6th Ave NE	3rd St NE	Thru-STOP	7,828	-	0	0	0	4	2	None
805.06	6th Ave NE	4th St NE	Signal	9,045	Yes	1	1	1	2	0	None
805.07	6th Ave NE	5th St NE	Thru-STOP	6,638	-	0	0	0	4	2	None
805.08	6th Ave NE	6th St NE	Thru-STOP	4,775	-	0	0	0	4	2	None
805.09	6th Ave NE	7th St NE	Thru-STOP	3,588	-	0	0	0	4	2	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	>7,500	Countdown Timers	\$10,000 per intersection	1	\$10,000
Development / Ped Generator	Yes	Curb Extensions	\$15,000 per corner	23	\$345,000
Total Ped/Bike Crashes	>0	Median Refuge Island	\$10,000 per side	9	\$90,000
					\$445,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$400,500
Local Match (10% of Total project cost)	\$44,500
Total Project Cost	\$445,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

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HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on 6th St NE from College Dr N to 5th Ave NE

Agency Name: City of Devils Lake

Contact Name: Mike Grafsgaard

Email Address: mikeg@divnd.com

ND DOT District: 3

Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionCorridor: 816.01
Street Name: 6th St NE
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 4,078

SHSP Emphasis Area (check all that apply)

- ☐
- Reduce Alcohol Impaired Driving
-
- ☐
- Increase the Use of Safety Restraints for all Occupants
-
- ☐
- Younger Driver/Older Driver Safety
-
- ☐
- Curb Aggressive Driving
-
- ☐
- Improvements to Address Lane Departure Crashes
-
- ☐
- Enhancing Emergency Medical Capabilities to Increase
-
- ☒
- Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
816.01	6th St NE	College Dr N	Signal	8,835	-	0	1	1	2	0	Segment projects suggested on other sheets.
811.08	2nd Ave NE	6th St NE	Thru-STOP	7,885	-	1	0	0	2	1	Segment projects suggested on other sheets.
816.02	6th St NE	3rd Ave NE	Thru-STOP	6,193	Yes	0	0	0	2	2	Segment projects suggested on other sheets.
816.03	6th St NE	4th Ave NE	Signal	7,830	Yes	0	1	1	2	0	Segment projects suggested on other sheets.
816.04	6th St NE	5th Ave NE	Thru-STOP	4,110	-	0	0	0	2	2	Segment projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria			Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal		Advanced Walk	\$0 per intersection	2	\$0
Entering ADT	>7,500		Countdown Timers	\$10,000 per intersection	2	\$20,000
Development / Ped Generator	Yes		Curb Extensions	\$15,000 per corner	10	\$150,000
Total Ped/Bike Crashes	>0		Median Refuge Island	\$10,000 per side	5	\$50,000
						\$220,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$198,000
Local Match (10% of Total project cost)	\$22,000
Total Project Cost	\$220,000

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --Page: 4
Intersection ID: 816.01
Date: 10/28/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on US 2 from Summer St NW to Hwy 19W

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@dvind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor: 832.01
Street Name: US 2
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 2,888

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
825.01	Summer St NW	US 2	Thru-STOP	2,440	-	0	0	0	0	0	Right angle projects suggested on other sheets.
832.01	US 2	Hwy 19 W	Signal	7,830	Yes	0	1	1	0	0	Right angle projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria			Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal		Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	>7,500		Countdown Timers	\$10,000 per intersection	1	\$10,000
Development / Ped Generator	Yes		Curb Extensions	\$15,000 per corner	0	\$0
Total Ped/Bike Crashes	>0		Median Refuge Island	\$10,000 per side	0	\$0
						\$10,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$9,000
Local Match (10% of Total project cost)	\$1,000
Total Project Cost	\$10,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

Page: 5
Intersection ID: 832.01
Date: 10/28/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on US 2 from Hwy 19W to College Dr

Agency Name: City of Devils Lake
Contact Name: Mike Grafsgaard
Email Address: mikeg@divind.com

ND DOT District: 3
Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor: 832.02
Street Name: US 2
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 3,838

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
832.02	US 2	College Dr	Signal	11,708	Yes	1	1	1	0	0	Right angle projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria			Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal		Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	>7,500		Countdown Timers	\$10,000 per intersection	1	\$10,000
Development / Ped Generator	Yes		Curb Extensions	\$15,000 per corner	0	\$0
Total Ped/Bike Crashes	>0		Median Refuge Island	\$10,000 per side	0	\$0
						\$10,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$9,000
Local Match (10% of Total project cost)	\$1,000
Total Project Cost	\$10,000

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --

Page: 6
Intersection ID: 832.02
Date: 10/28/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATIONNorth Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on College Dr from 5th St SE to Hwy 19W

Agency Name: City of Devils Lake

Contact Name: Mike Grafsgaard

Email Address: mikeg@divlnd.com

ND DOT District: 3

Telephone Number: 701-662-7600 ext 2

Please attach a location map(s). You may use additional sheets to further describe your project.

Location DescriptionCorridor: 834.02
Street Name: College Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 3,431

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☒ Improve Intersection Safety

North Dakota Crashes, 2008 - 2012

5 Years

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
808.01	5th St SE	College Dr S	Thru-STOP	3,480	Yes	0	0	0	2	0	Segment and right angle projects suggested on other sheets.
833.01	US 2	College Dr	Signal	0	0	0	1	1	2	0	Segment and right angle projects suggested on other sheets.

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Intersection Criteria			Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal		Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	>7,500		Countdown Timers	\$10,000 per intersection	1	\$10,000
Development / Ped Generator	Yes		Curb Extensions	\$15,000 per corner	4	\$60,000
Total Ped/Bike Crashes	>0		Median Refuge Island	\$10,000 per side	0	\$0
						\$70,000

Project Cost Estimate (attach detailed copy)**Proposed Year of Construction**

Federal Funds	\$63,000
Local Match (10% of Total project cost)	\$7,000
Total Project Cost	\$70,000

NDDOT Central Office OnlyProject Accepted? ☐ Yes ☐ No Reference Number - ID Number -
Notes --Page: 8
Intersection ID: 834.02
Date: 10/28/2013

5.0 Behavioral Safety Strategies

5.1 Purpose of Driver Behavior Safety Strategies

North Dakota's Local Road Safety Program (LRSP) recognizes that driver behavior is a significant factor contributing to a majority of the severe crashes on North Dakota's local roads. Traffic crashes may result from any combination of overlapping crash factors, such as the roadway, the vehicle, and driver behavior. Research supports and experts agree that in most cases driver behavior—risky decisions, driver error, lapses of attention, and driver limitations—is a chief factor contributing to traffic crashes (Lerner et al., 2010). Severe traffic crashes in North Dakota's northeast region can be largely prevented and reduced if motorists were persuaded to engage in key safe driving practices to buckle up, drive at safe speeds, pay attention, and plan ahead to avoid impaired driving. For maximum safety benefit, these measures should be undertaken in addition to adopting infrastructure safety strategies to help ensure the safest and most forgiving roadway possible.

5.2 Overview of Behavioral Crash Data for North Dakota's Northeast Region

Unbelted Occupants: Traffic safety research demonstrates that a motorist's seat belt is the most effective defense in the event of a crash. When lap and shoulder seat belts are used, the risk of fatal injury to front-seat passenger car occupants is reduced by 45 percent and the risk of moderate-to-critical injury is reduced by 50 percent (NHTSA, 2001). Safety benefits are even greater for light-truck occupants, with seat belts reducing fatalities by 60 percent and moderate-to-critical injury by 65 percent (NHTSA, 2009). North Dakota's 2013 statewide seat belt use is 77.7 percent; lower than the nationwide use of 86 percent. Unbelted severe crashes are the northeast region's greatest opportunity to strengthen road safety through improving driver behavior. The trend of unbelted severe crashes is increasing statewide. The northeast region mirrors the statewide-unbelted severe crashes with 50 percent of the region's severe crashes involving unbelted motorists.

Alcohol-Related Crashes: Nationally, although impaired driving fatalities have decreased since 2007, the percentage of alcohol-impaired fatalities in the U.S. has remained essentially unchanged (NHTSA, 2012a). Similarly, over the last decade, each year nearly half of motor vehicle fatalities statewide in North Dakota continue to be alcohol-related. In the northeast region, 37 percent of the region's severe crashes are alcohol-related—higher than the statewide 30 percent. From statewide crash data, nearly half of these preventable severe crashes are on the local road system.

Young Driver-Involved: Young drivers have the highest involvement in fatal crashes of any age group. The fatal crash involvement of drivers age 16 to 20 is nearly twice that of drivers age 21 and older (NHTSA, 2012b). Key underlying factors to their high crash risk are the developmental and behavioral issues of adolescence coupled with driving inexperience. Young drivers too often immaturely take risks while driving without thinking through the potential consequences of their life-threatening decisions (Keating, 2007). Such high-risk behaviors

typically include lack of seat belt use, aggressive driving/speeding, and distractions while driving. Although severe injury crashes involving young drivers have gradually declined statewide, young drivers under the age of 21 continue to be overrepresented in crashes with 67 percent occurring on local roads. In the northeast region, 22 percent of severe crashes involve young drivers, which is similar to the statewide statistics.

Speeding or Aggressive Driving: Speeding is common and is a tough nut to crack nationally and in North Dakota. Although drivers generally acknowledge that speeding is an unsafe behavior, speeding remains common because the perceived risk of injury is low relative to the perceived benefits of driving fast such as saving time and driving pleasure (Lerner et al., 2010). Consequently, the percentage of speeding-related fatal crashes has remained essentially unchanged over the years and remains a contributing factor in 31 percent of traffic fatalities in the U.S. (NHTSA, 2012c). Speeding and aggressive driving continue to account for approximately 27 percent of all severe crashes in North Dakota with 62 percent of these crashes occurring on the local road system. In the northeast region, 30 percent of its severe crashes involve speed or aggressive driving – slightly higher than the statewide percentage.

5.3 Importance of Traffic Safety Culture Change

5.3.1 Influence of Traffic Safety Culture

In adopting North Dakota's long-term vision of zero fatalities, the 2013 North Dakota SHSP establishes a collective goal to reduce the 3-year average of traffic fatalities to 100 or fewer by 2020. To accomplish this interim goal, the northeast region, together with its traffic safety partners, seeks to develop and implement its LRSP safety strategies within the broader societal context of motorists' behavior and North Dakota's traffic safety culture. Traffic safety culture can be defined as the implicit shared values, beliefs, and perceptions that shape motorists' behavior.

5.3.2 Social Norms Inhibiting a Strong Traffic Safety Culture

At the core of the nation's and North Dakota's traffic safety challenge is a complacency toward risk-taking by drivers and a tolerance for traffic crashes and the resulting deaths and serious injuries. Contributing factors include a sense of individual driver invulnerability, perceived driving skills and vehicle control, and a sense of anonymity and entitlement on the road. The latest data from the 2012 *Traffic Safety Culture Index Survey* reports that, as in previous years, the safety culture in the United States surrounding distracted driving can best be described as "do as I say, not as I do" – due to the high numbers of people who object to certain behaviors, yet will admit that they, themselves, engage in them (AAA, 2012). Real progress in traffic safety depends largely on addressing and changing this culture of indifference to effectively implement and see results of both SHSP and LRSP safety strategies.

5.3.3 Social Levels Influencing Safety Culture

Efforts to change individual driver and motorist behaviors should be planned and executed from an ecological viewpoint – one that examines the driving public and their interaction with their social environments. Traffic safety culture and its influence operate at different levels within society. Therefore, a broader definition of traffic safety culture includes the values, beliefs, and perceptions of not only the individual driver, but of those shared by the various communities of which the driver is a part (Figure 5-1). The individual driver exists within a

system that includes the following levels, each embodying factors that influence driving culture and crash risk (Ward et al., 2010; Dahlberg and Krug, 2002):

- Individual level – Factors such as driver age, driving experience, self-esteem, income, and substance abuse
- Relationship level – Factors such as relationships with peers, co-workers, supervisors, and family members
- Community level – Factors include the settings or environments in which relationships occur such as school, church, workplaces, and neighborhoods
- Societal level – Large-scale factors such as safety, health, economic, and educational policies, as well as government commitments and priorities

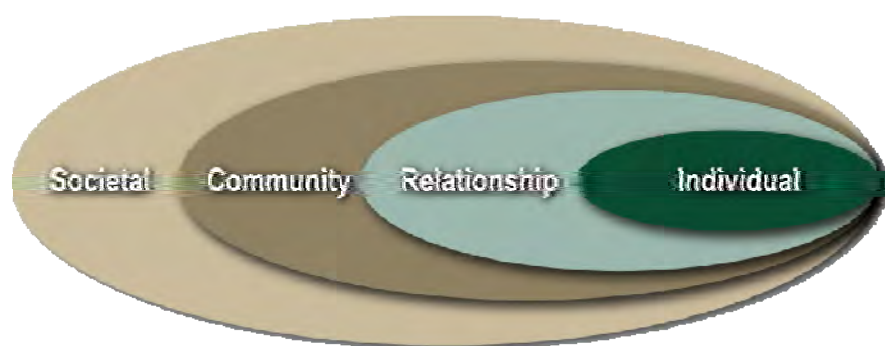


FIGURE 5-1

Social Ecological Perspective of Culture

Source: "Violence – A Global Public Health Problem" by L.L. Dahlberg and E.G. Krug, in *World Report on Violence and Health* (World Health Organization)

Social norms at each level and within each group point to what behaviors are perceived as important. Norms create conformity to expectations that allows people (that is, drivers) to successfully socialize to the subcultures in which they belong. These norms create a climate in which unsafe driving behavior is either encouraged or discouraged. Perceived social norms condoning high-risk driving behaviors provide the case for drivers to rationalize their own high-risk behaviors. To accomplish the culture change, traffic safety behavioral strategies seek to make safe-driving behaviors the accepted norm across all social ecological levels.

The implication of the social ecological model for LRSP efforts is that the implementation plans of LRSP strategies plans should attempt to:

- Increase perceived social pressure to comply with traffic safety laws and practices, thereby, producing safety behavioral norms (Ward et al., 2010)
- Shift the social acceptance of high-risk behaviors to one of perceived unacceptance by significant others and one's peers.

5.4 Behavioral Safety Strategies

5.4.1 Role of Policy, Education, and Enforcement

Techniques or strategies to change driver behavior essentially fall into one of three categories: 1) *policy change* or laws, local ordinances, regulations, sanctions and penalties; 2) *enforcement* of the laws; and 3) *education* or public information, media, and training. These three categories of behavioral safety strategies work together to have the greatest impact on changing risky driver behavior. The degree of effectiveness of any one strategy on behavioral change depends not only on how effectively the strategy is implemented, but also on how these three categories of policy, enforcement, and education are working together.

For example, a state or local agency that is seeking to increase motorists' seat belt use and decides to use a "buckle up" public information campaign (behavioral change strategy). The effectiveness of the campaign not only depends on the quality of the education or public information campaign (relevance to target group, duration, saturation of the messaging), but also the strength of the law in place (primary vs. secondary seat belt law, all passengers vs. front seat only, higher penalty/fee vs. low penalty/fee) and, most important, the degree of seat belt use enforcement (coverage, intensity, visible by the public).

Consequently, the strength of driver safety policy, enforcement, and education surrounding a behavioral strategy selected greatly impact its effectiveness. Therefore, when selecting and implementing a behavioral strategy, an agency must examine the policy, enforcement, and educational context of the strategy and explore ways to strengthen each, as appropriate, to gain the most from a selected strategy.

Finally, it is critically important that traffic safety enforcement be viewed as a priority within local law enforcement agencies and that agency leaders and administrators advocate for strong local enforcement of traffic laws. It is imperative that agency leaders actively address political and public resistance and provide a pathway to deploy the leading strategy to save lives on North Dakota roadways – effective traffic enforcement coupled with public outreach. By advocating for enforcement, educating local elected officials, and equipping officers to effectively enforce traffic safety laws, North Dakota will reap far greater life-saving outcomes from its local safety initiatives.

5.4.2 Effective Use of Public Information Strategies

Public information (education) strategies are often popular among communities seeking to change risky driving behaviors. Education or public information campaigns can range from brochures and mailings to peer-to-peer safety messaging. Brochures and mailings are a passive approach, while peer-to-peer messaging provides a more effective behavioral change approach. In general, a key challenge in influencing driver behavior is that most drivers know what they are supposed to do to drive safely, yet due to successfully driving with risky patterns with no incidence of crash, drivers underestimate the risk of their choices. For this reason, research supports that education, coupled with enforcement, will have the strongest impact in changing driver behavior (NHTSA, 2013).

Following are key characteristics of impactful public information/education campaigns (Williams, 2007):

- Implemented in support of a high-visibility enforcement program

- Focused messaging for a target group
- Longer-term programs delivering messages of sufficient intensity over time
- Messages communicating new information not previously well known
- Messages that are part of a broader-based, longer-term community program with similar messaging coming from multiple sources
- Using behavior change models including interactive methods teaching skills to resist social pressure (such as role playing, group discussion)

5.4.3 LRSP Phase 1 Priority Strategies

During the LRSP workshop, participants reviewed the northeast region's behavioral crash data and discussed behavioral safety strategy alternatives that could be implemented at the local level. Out of the strategy review discussions, participants engaged in a prioritization process with six strategies emerging as the preferred local behavioral safety strategies for the four behavioral critical emphasis areas. Table 5-1 reflects the LRSP Phase 1 results of the strategy prioritization, as well as each strategy's alignment with the North Dakota SHSP (indicated by an "X" if included in the SHSP).

TABLE 5-1
North Dakota Phase 1 LRSP Workshop Priority Behavioral Strategies and Relationship with the North Dakota SHSP

Phase 1 LRSP Workshop Priority Behavioral Strategies and Their Relationship with the North Dakota SHSP	Northeast Region	Region 10 (Burleigh County)	Region 14 (Ward County)	ND SHSP
Impaired Driving				
• Conduct regular high-visibility DUI enforcement saturations	X	X	X	X
Speeding and Aggressive Driving				
<ul style="list-style-type: none"> • Conduct high-visibility targeted enforcement of speeding and aggressive driving <i>Note: Additional speeding and aggressive driving enforcement strategies to support priority infrastructure safety strategies include:</i> <ul style="list-style-type: none"> - Provide enhanced enforcement to support local agency implementation of red-light-running confirmation lights for at-risk intersection locations - Provide enhanced enforcement on local, at-risk locations for lane departure 	X	X	X	X
Young Drivers				
• Publicize and conduct a high-visibility enforcement of GDL restrictions, cell and texting laws, underage drinking and driving, and seatbelt laws			X	X
• Encourage driver education providers (local schools and private providers) to require parent education component	X	X		X
• Brief interventions by health care providers following a crash regarding driving risks and consequences			X	X
Unbelted Occupants				
• Conduct highly publicized enforcement campaigns to maximize restraint use.	X	X	X	X
Note: DUI = driving under the influence GDL = graduated drivers license				

The following subsections provide a more complete description of each priority strategy, suggested steps to launch local agency efforts, recommended implementation resources, and potential future considerations for expanded local agency and community-based support for the SHSP safety strategies. It is important to note that multidisciplinary SHSP implementation teams will be formed to support the implementation of priority strategies for each of the six SHSP priority emphasis areas: lane-departure, unbelted occupants, alcohol-related, speeding or aggressive driving, young drivers, and intersections. Therefore, local agencies seeking to leverage local-level safety initiatives described in the following subsections are encouraged to coordinate with and/or engage in the statewide SHSP implementation teams.

5.4.4 Impaired Driving

Northeast Region Priority Strategy – Conduct regular high-visibility DUI enforcement saturation patrols (includes expanding DUI sobriety checkpoints)

Description: High-visibility DUI enforcement is a high-priority, proven safety strategy to reduce alcohol-impaired severe crashes in North Dakota and across the nation. The most effective way to deter impaired driving is through a highly visible enforcement effort to reinforce the driving public's belief that impaired drivers are at high risk of being arrested, prosecuted, and adjudicated. High-visibility enforcement consists of multiple jurisdictions and/or multiple squads patrolling a segment of roadway at the same time, often using brightly colored vests and signs. Planned enforcement is publicized extensively through community kickoff events involving the local media and public education campaigns about the enforcement. High visibility also includes enforcement agencies reporting to news media the outcome or arrests made during the saturation or checkpoint campaign. In addition to deterring driving after drinking by increasing the perceived risk of arrest, high-visibility enforcement extends the safety impact of the enforcement campaign for a longer period following the campaign.

What are saturation patrols?

Saturation patrols, also known as “dedicated DUI patrols,” are stepped-up enforcement involving a greater number of law enforcement officers patrolling a specific area for a set time to identify and arrest impaired drivers. Multiple agencies often combine and concentrate their resources to conduct saturation patrols.

What are sobriety checkpoints?

At sobriety checkpoints, law enforcement officials evaluate drivers for signs of alcohol or drug impairment at certain points on the roadway. Vehicles are stopped in a specific sequence, such as every other vehicle or every fourth, fifth, etc. The frequency of which vehicles are stopped depends on the traffic conditions and the number of enforcement personnel available to staff the checkpoint.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as impaired driving, in the SHSP.
- Assist local law enforcement agencies and Regional DUI Task Forces with identifying locations with high crash involvement for high-visibility enforcement.

- With local law enforcement, attend county board/city council meetings to speak on the importance of reducing impaired driving and the important role of both enforcement and engineering safety strategies.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO DUI campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus DUI enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For statewide impaired-driving enforcement mobilizations, the TSO distributes media outreach materials to local enforcement agencies, which may include press releases, talking points, camera-ready artwork and posters, impaired driving fact sheets, handouts for the public at checkpoints, a print public service announcement (PSA), and live-read radio PSAs. (Note: TSO to assemble available information resources.)
- For guidance on planning and publicizing saturation patrols and sobriety checkpoints:
 - *Saturation Patrols & Sobriety Checkpoints: A How-to Guide for Planning and Publicizing Impaired Driving Enforcement Efforts*, NHTSA, Report No. DOT HS 809 063, revised October 2002.
http://www.nhtsa.gov/people/injury/alcohol/saturation_patrols/
 - *Low-Staffing Sobriety Checkpoints*. NHTSA, Report No. DOT HS 810 590, 2006.
http://www.nhtsa.gov/people/injury/enforce/LowStaffing_Checkpoints/
- Other impaired-driving safety resources:
 - National Highway Traffic Safety Administration: <http://www.nhtsa.gov/Impaired>
 - Governor's Highway Safety Administration:
<http://www.ghsa.org/html/issues/impaireddriving/index.html>
 - Insurance Institute for Highway Safety:
http://www.iihs.org/research/topics/alcohol_drugs.html

Potential future considerations for expanded local agency and community-based support of SHSP impaired-driving safety strategies:

- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency impaired-driving legislative initiatives resulting from the state's comprehensive assessment of North Dakota impaired-driving laws.
- Conduct community-wide and sustained public information outreach to educate and create cultural awareness of the risks associated with excessive alcohol use.

- Develop and conduct local public outreach on accessible safe-ride alternative transportation services.
- Conduct highly publicized compliance checks and training for local alcohol retailers and merchants to reduce sales to underage persons.

Other high-impact, proven strategies for local agency consideration:

- Monitor judicial sentencing of local DUI courts or intensive supervision programs.

5.4.5 Young Drivers

Northeast Region Priority Strategy – Encourage driver education providers (local schools and private providers) to require a parent education component

Description: Effective parental monitoring of teen driving can go a long way in helping to keep novice drivers safe on the roadway. Programs offering teen driver safety materials together with facilitated guidance help parents make the important connection between teen driving restrictions and teen driving risks. Without a required parent component for teen driver education, parents lack awareness of graduated drivers license (GDL) safety provisions, don't fully recognize teen driving risks, are often anxious to be relieved of shuttling their teens, may be reluctant to invest the necessary time to instruct and supervise their teen's driving, and often believe their teen is the exception and is a good and safe driver. To help overcome these parent challenges and more effectively engage parents, incorporating a parent education component into driver education programs is demonstrating promising results.

Key components of a good parent education program include:

- Discusses risks for novice teen drivers
- Explains how and why GDL works to address risks
- Reviews the critical role parents play in teaching, supporting and managing their novice drivers
- Explains the importance of and provides an opportunity to try out a parent/teen driving agreement
- Delivery by trained, educated facilitators
- Emphasizes parents and teens working together for safety

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as young drivers, in the SHSP.
- Learn about education providers in your local community by contacting the Traffic Safety Office at (701) 328-4692.
- Explore county-mandated parent training through examining Virginia's Planning District 8 (includes four counties and four cities) 90-minute driving safety program for parents and teens as part of the in-classroom portion of the state's driver education curriculum. Contact Ben Swecker (703) 791-7328 or Tim TeWalt (703) 791-7353 at Prince William County Schools.

- With local law enforcement and driver educators, attend county board/city council meetings to inform them of the local initiative to incorporate parent education into driver's education programs to more fully engage parents and reduce teen driver severe crashes.
- Post information on teen driving laws on local school websites or request school resource officer to send information to parents highlighting driving risks for teens and existing North Dakota teen driver laws.
- Consider linking parent-teen participation in a teen driving program to school parking privileges.

Implementation Resources:

- See Section 5.5, Traffic Safety Office Supporting Resources.
- For educational materials for parents of teen drivers including guidelines to ensure teen drivers are educated on safe driving practices as well as *The North Dakota Parent Guide to Teen Driving* and the *Parent Teen Driver Agreement*, see the Teen Drivers & Parents section of the NDDOT website:
<http://www.dot.nd.gov/divisions/safety/teens-parents.htm>
- For an example parent-teen class outline and discussion guide, download the Minnesota Department of Public Safety, Office of Traffic Safety's *Teen Drivers: The Parent's Role at:*
<https://dps.mn.gov/divisions/ots/teen-driving/Documents/Parent-class-leaders-guide-july-2013.doc>
- The Minnesota Office of Traffic Safety developed "Point of Impact: Teen Driver Safety Parent Awareness Program" as a community-based class for parents and their soon-to-be teen drivers. The Point of Impact Leader's Guide is a resource for implementing the class. The Point of Impact video is an important component of the program. A PowerPoint presentation and other information are available by contacting Gordy Pehrson at gordy.pehrson@state.mn.us.
- For information on the nationally recognized University of Michigan's *Checkpoints* program offering facilitated parent education:
<http://youngdriverparenting.org/> and <http://www.saferdrivingforteens.org/>
- For a comprehensive guide to strengthen parental roles in teen safe driving, see the Governors Highway Safety Association's (GHSA's) *Promoting Parent Involvement in Teen Driving: An In-Depth Look at the Importance and the Initiatives*.
<http://www.ghsa.org/html/publications/pdf/sfteens13.pdf>
- For additional information on mandated and voluntary parent/teen education programs in Connecticut, Massachusetts, Georgia, and select Virginia counties, see GHSA's *Curbing Teen Driver Crashes: An In-Depth Look at State Initiatives*.
<http://www.ghsa.org/html/publications/pdf/sfteens12.pdf>
- For age-specific information and resources for parents on how to start and continue the conversation about alcohol use with their children, see the North Dakota's *Parents LEAD* program (Listen, Educate, Ask, Discuss).
<http://www.parentslead.org/>

Considerations for future expanded local agency/community support of ND SHSP young driver safety strategies:

- Engage local traffic safety stakeholders (law enforcement, school administrators, driving schools, insurance companies, community health providers, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency GDL and teen driver safety policy initiatives.

Other high-impact, proven strategies for local agency consideration:

- Conduct locally facilitated peer-to-peer driver safety outreach campaigns designed for high school students to raise peer awareness of the common risk factors threatening novice drivers.

5.4.6 Unbelted Occupants

Northeast Region Priority Strategy – Conduct highly publicized enforcement campaigns to maximize restraint use

Description: See Section 5.4.4 for a description of high-visibility/highly publicized enforcement campaigns.

North Dakota law enforcement agencies (state, county, city, and tribal) participate in the state's *Click It or Ticket* mobilization program to boost seat belt use and reduce highway fatalities through stepped up enforcement of unrestrained occupants. The mobilization is supported by national and local paid advertising and earned media campaigns aimed at raising awareness before the enforcement saturation. *Click It or Ticket* takes place each year in May around the Memorial Day holiday. North Dakota has increased its focus on nighttime seat belt use because fewer motorists buckle up at night.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as lack of seat belt use, in the SHSP.
- Assist local law enforcement agencies with identifying locations with high, unbelted crash involvement for high-visibility enforcement.
- With local law enforcement, attend county board/city council meetings to speak on the importance of enforcing seat belt use.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO belt use campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus seat belt enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For statewide belt use mobilizations, the TSO distributes media outreach materials to local enforcement agencies, which may include press releases, talking points, camera-ready

artwork and posters, seat-belt-use fact sheets, a print public service announcement (PSA), and live-read radio PSAs. (Note: TSO to assemble available information resources.)

- For guidance on planning and publicizing belt-use saturation patrols:
 - NHTSA 2013 national seat belt enforcement *Products for Enforcement Action Kit (PEAK)* to help enforcement rally officers and alert the public to prepare for maximum high-visibility seat belt enforcement during the day and at night.
<http://www.trafficsafetymarketing.gov/CIOT-PEAK>
 - *Nighttime Enforcement of Seat Belt Laws: An Evaluation of Three Community Programs*, NHTSA, Report No. DOT HS 811 189, August 2009.
 - *Innovative Seat Belt Demonstration Programs in Kentucky, Mississippi, North Dakota, and Wyoming*, NHTSA, Report No. DOT HS 811 080, March 2009.
 - *Avoiding “Tween” Tragedies: Demonstration Project to Increase Seat Belt Use Among 8- to 15-year-old Motor Vehicle Occupants*, NHTSA, Report No. DOT HS 811 096, June 2012.
 - For these and other belt enforcement and information outreach resources:
<http://www.nhtsa.gov/Driving+Safety/Occupant+Protection>
- Other seat-belt safety resources:
 - Governor’s Highway Safety Administration:
<http://www.ghsa.org/html/issues/occprotection/index.html>
 - Insurance Institute for Highway Safety:
<http://www.iihs.org/iihs/topics/t/safety-belts/topicoverview>

Potential future considerations for expanded local agency, tribal and community-based support of SHSP safety strategies:

- Pursue tribal ordinances for primary enforcement of seat belt laws.
- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency primary seat belt legislative initiatives.
- Conduct community-wide and sustained public information outreach to educate and create cultural awareness of the risks associated with unbelted motorists.

5.4.7 Speeding and Aggressive Driving

Northeast Region Priority Strategy – Conduct highly publicized, targeted enforcement campaigns of speeding and aggressive driving

Description: See Section 5.4.4 for a description of high-visibility/highly publicized enforcement campaigns.

North Dakota law enforcement agencies (state, county, city, and tribal) participate in the state’s Ticketing Aggressive Cars and Trucks (TACT) program to reduce speed-related fatalities and severe injuries through stepped up enforcement of aggressive cars and trucks primarily in oil-impacted counties. For aggressive driving enforcement, officers focus on drivers who commit a

combination of moving traffic violations such as speeding, following too closely, and/or running red lights, which endanger other persons or property.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as speeding, in the SHSP.
- Assist local law enforcement agencies with identifying locations with high-speed- and aggressive-driving-related crash involvement for high-visibility enforcement.
- With local law enforcement, attend county board/city council meetings to speak on the importance of enforcing the speed limit and deterring aggressive driving.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO speed campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus speed enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For guidance on planning and publicizing speed saturation patrols and successful case examples, see NHTSA's *Guidelines for Developing a Municipal Speed Enforcement Program* at: <http://www.nhtsa.dot.gov/people/injury/enforce/program.htm>
- For a summary of successful aggressive driving enforcement programs deployed at the local and state-level across the country, see NHTSA's (2001b) *Aggressive Driving Enforcement: Strategies for Implementing Best Practices* at: <http://www.nhtsa.gov/people/injury/enforce/aggressdrivers/aggenforce/>
- Other speed-related safety resources:
 - Governor's Highway Safety Administration: <http://www.ghsa.org/html/issues/speeding.html>
 - Insurance Institute for Highway Safety: <http://www.iihs.org/iihs/topics/t/speed/topicoverview>

Potential future considerations for expanded local agency, tribal, and community-based support of SHSP safety strategies:

- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency legislative initiatives to strengthen penalties such as increased fines for right-of-way and speed violations.

Northeast Region Priority Strategy – Provide enhanced enforcement to support local agency implementation of red-light-running confirmation lights for at-risk intersection locations.

(Note: Use HSIP flex funds for overtime enforcement)

Description: To reduce the most common type of severe crashes at signalized intersections – right-angle crashes--the northeast region is deploying an innovative safety strategy using a downstream confirmation light system to reduce red-light running. A blue LED light mounted on the back of a traffic light is activated when an offender runs the red light. A single officer stationed across the intersection downstream from the traffic light safely observes and pursues the red light violator (instead of one officer to observe and an additional officer to pursue). To implement, red-light-running confirmation lights require interdependent collaboration of both engineering and enforcement; even more effective would be added public outreach about the red-light-running confirmation lights.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as speeding and aggressive driving, in the SHSP.
- Work with NDDOT staff regarding specific design features of the system. Contact NDDOT Traffic Operations Section, Shawn Kuntz, (701) 328-2673.
- Coordinate with local law enforcement:
 - Ask for their assistance in locating the enforcement lights on traffic signal poles/mast arms (optimum viewing locations)
 - Ask for an agreement regarding minimum levels of enforcement (that is, 1 hour per day at any of the equipped locations)
 - Provide training to officers after installation – demonstrate that the “blue/confirmation” light does come on at the same instant as the red light of the signal
- Encourage law enforcement to coordinate with the city/county attorney – make sure the attorney understands the technology and is willing to prosecute the violators.
- Encourage the city/county attorney to coordinate with the district court judge – make sure the judge understands the technology and will uphold charges and support the conviction of violators.
- Prior to issuing any tickets for violations using the confirmation lights, have the traffic signal operations engineer check all of the signals clearance intervals (yellow + all red) to make sure they are 100-percent consistent with the agencies adopted guidelines. Have a note confirming compliance signed by the engineer put in the signal controller cabinet. (This will help address the inevitable complaint by those issued tickets that the agency changed the clearance intervals to generate more violators and increase revenue streams.)
- With local law enforcement, attend county board/city council meetings to speak on the community safety benefits of red-light-running confirmation lights.

Implementation Resources:

- For crash data and analysis to focus red-light-running enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.

- See Section 5.5, Traffic Safety Office Supporting Resources.
- Safety project developed as part of the LRSP are eligible for funding through the state's Highway Safety Improvement Program (HSIP) including enhanced enforcement.
- Contact local agencies that have deployed red-light-running confirmation lights:
 - City of Burnsville Public Works, Minnesota
Engineering Department
100 Civic Center Parkway
Burnsville, MN 55337
Phone: (952) 895-4534
 - Richardson Police Department, Texas
140 North Greenville Ave.
Richardson, TX 75081
Phone: (972) 744-4800

Northeast Region Priority Strategy – Provide enhanced enforcement on local, at-risk locations for lane departure.

Description: To reduce lane-departure severe crashes on rural paved roads, the northeast region will be deploying infrastructure safety improvements (for example, centerline rumble strips, edge line rumble strips, adding or widening edge lines, high-visibility pavement markings) along select at-risk corridors. To maximize the expected safety benefit of the road improvements, integrating increased enforcement presence at targeted at-risk locations and timeframes will reduce risky driver behaviors through strengthening the public's perceived risk of being stopped.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as lane departure, in the SHSP.
- Work with NDDOT staff regarding specific design features of the system. Contact NDDOT Traffic Operations Section, Shawn Kuntz, (701) 328-2673.
- Coordinate with local law enforcement to provide enforcement at local, at-risk locations for lane departure:
 - Based on crash data, identify timeframes for high crash risk (such as Saturday evening hours)
 - Ask for an agreement regarding minimum levels of enforcement (that is, 1 hour per day at any of the equipped locations, target contacts per hour, etc.)

Implementation Resources:

- For crash data and analysis to focus red-light-running enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- See Section 5.5, Traffic Safety Office Supporting Resources.

- Safety project developed as part of the LRSP are eligible for funding through the state's Highway Safety Improvement Program (HSIP) including enhanced enforcement.
- See Section 5.4.7 for speeding and aggressive driving resources

5.5 Traffic Safety Office Supporting Resources

Unless otherwise indicated, for technical assistance and supporting resources contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.

5.5.1 TSO Grant Program Application Process

The TSO solicits grant applications from eligible state and local agencies and for-profit and nonprofit organizations that address North Dakota's problem solution plans (PSPs). PSPs reflect the state's greatest opportunities for behavioral safety improvement. Grant applications are due June 30 of each year and are evaluated based on: (1) response to identified problems, (2) proposed evidenced-based strategy, (3) clear objectives, (4) comprehensive evaluation plans, and (5) cost-effective budgets. Selected projects are included in TSO's Highway Safety Plan and once approved by NHTSA, grant contracts are generally effective October 1 through September 30.

5.5.2 Technical Assistance

County Outreach Program

The TSO, in cooperation with the North Dakota Association of Counties, offers a county-based Traffic Safety Outreach program to provide advocacy and community mobilization, media support, public outreach, and training to address seat belt use, impaired driving, speeding, and distracted driving at the county level. County participants include law enforcement, transportation engineering, social services, public health, businesses, nonprofit agencies, faith-based agencies, media, and other entities.

5.5.3 Traffic Records/Crash Data

Traffic and Criminal Software (TraCS)

The quality of traffic-safety problem identification and decision making regarding effective safety strategies and their implementation is based on the quality and timeliness of crash data. Data is collected from officer crash reports at the time of the incident when a crash involves fatalities, injuries, or at least \$1,000 in property damage. NDDOT reviews the crash report and enters the data into a centralized database called the Crash Reporting System (CRS).

To assist law enforcement in providing timely, complete, and accurate crash reports, the NDDOT Traffic Safety Office (TSO) supports the installation of Traffic and Criminal Software (TraCS) and provides technical assistance and training to local agency and tribal law enforcement to effectively deploy TraCS for in-the-field incident reporting. Local and tribal enforcement agencies are strongly encouraged to utilize the convenience of TraCS for the electronic submission of crash reports to the NDDOT. Key benefits to participating agencies and tribes are the reduced officer time and effort required for duplicate entry into local and state crash databases, reduced need for data entry resources and administrative support, as well as improving the overall quality and timeliness of the crash report.

Local Agency Crash Data Support

The Upper Great Plains Transportation Institute develops crash data summaries for each law enforcement agency under contract with the TSO for overtime enforcement supporting impaired driving and seat belt enforcement campaigns. The crash data summaries demonstrate the priority crash factors and trends within each local agency's jurisdiction.

Annual Crash Summary

The NDDOT annually publishes the Crash Summary to identify and describe the annual crash data and historical crash trends in North Dakota including the description of factors contributing to the occurrence of traffic crashes and the resulting injuries and fatalities. The Crash Summary is a valuable reference resource for local agencies and their safety partners for problem identification, safety strategy planning, targeted strategy implementation, program evaluation, and media inquiries.

<http://www.dot.nd.gov/divisions/safety/docs/crash-summary.pdf>

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